California Regional Water Quality Control Board

Los Angeles Region

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

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Agency Secretary

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Arnold Schwarzenegger
Governor

06/21/06 BdMtg Item 10
Boeing Company
Deadline: 06/14/06 5pm

LATE

June 15, 2006

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PETITIONS FOR REVIEW BY THE BOEING COMPANY OF ORDERS NOS. R4-2004-011, R4-2006-0008, AND R4-2006-0039 FOR SANTA SUSANA FIELD LABORATORY **SWRCB/OCC FILES A-1653 AND 1737**

Dear Ms. Jennings:

On June 8, 2006, the Los Angeles Regional Water Quality Control Board (Los Angeles Regional Board) mailed you fifteen (15) boxes comprising the administrative record in the above referenced petitions.

Attached please find the Los Angeles Regional Board's response to the above referenced petitions. If you have any questions, please do not hesitate to contact me at 213/576-6605.

Sincerely,

for J. Bishop

Jonathan S. Bishop
Executive Officer

Attachment

cc: see next page

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Lyris List for A-1653 and A-1737

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Arnold Schwarzenegge
Governor

TO: Song Her, Clerk of the Board
Elizabeth Miller Jennings, Esq.

Jonathan Bishop by

FROM: Jonathan Bishop
Executive Officer
LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

DATE: June 15, 2006

SUBJECT: RESPONSE TO PETITIONS FOR REVIEW OF NPDES PERMIT CA0001309 ORDER NUMBERS R4-2004-0111, R4-2006-0008, AND R4-2006-0036 FOR THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY
SWRCB/OCC FILES A-1653 AND A-1737

Site Background

The Santa Susana Field Laboratory (SSFL) is located at the top of Woolsey Canyon, in Simi Hills, CA. The site comprises approximately 2,850 acres. SSFL is owned by both Boeing and the National Aeronautical Space Administration (NASA). The United States Department of Energy (DOE) also owns several buildings located in Area IV, with the land being under the ownership of Boeing.

Boeing operations at SSFL since 1950 include research, development, assembly, disassembly, and testing of rocket engines, and chemical lasers. Other operations include testing of small rocket motors; testing and developing water pumps, lasers, and liquid metal heat exchanger components. DOE conducted past operations in research and development of nuclear operations, energy related programs, and seismic testing experiments. Current DOE activities onsite are solely related to environmental remediation, restoration, and facility closure.

Nuclear Operations: Past operations at SSFL employed special nuclear materials including several reactors. A reactor onsite was originally used to supply Simi Valley residents with power beginning November 12, 1957. In 1959, there was a partial meltdown of the reactor. Subsequently the reactor fuel was damaged in other reactors in 1964 and in 1968. There have been nine radiological incidents at the SSFL.[1] There were also other support facilities including a fuel facility, a hot lab for cutting out irradiated reactor fuel, and open-air burn pits used to burn contaminated components.

[1] Admin Record SWRCB/OCC Files A-1653 and A-1737; Box 4, Folder 3, Item 8, Draft Preliminary Site Evaluation Santa Susana Field Laboratory.

Three radiological facilities located in Area IV of the SSFL remain to be decommissioned. The Department of Energy (DOE) is responsible for the cost of decontamination and decommissioning, the California Department of Health Services (Radiological Health Branch) has radiological oversight responsibilities at Area IV of the SSFL.

SSFL continues to utilize radioisotopes in the form of calibration sources, which are necessary to calibrate radiation detectors and counting equipment. Essentially all of the radioactive material onsite is stored in shielded vaults located at the Radioactive Materials Handling Facility (RMHF).

Nuclear reactor operations and associated facilities, and reactor accidents resulted in the release of various radioactive isotopes. Monitoring requirements and effluent limits have been included in the permit for gross alpha, gross beta, combined radium 226 and radium 228, tritium, and strontium-90 to control the discharge of radioactive materials. Elevated concentrations of metals are present as a result of associated facilities required to support the nuclear reactor operations. Metals with effluent limits included in the permit are antimony, arsenic, cadmium, copper, chromium VI, lead, mercury and zinc.

Rocket Engine and Component Testing: An engine test consists of a cycle of one to three engine runs lasting one to three minutes each. A test cycle may take one to two weeks to complete. Each engine run results in the use of 50,000 to 200,000 gallons of deluge/cooling water that may come in contact with fuels such as liquid oxygen (LOX) or kerosene and associated combustion products. The frequency of testing varies depending on production requirements but currently one test cycle is completed every one to two months.

Historically, very large volumes of trichloroethylene (TCE) were used to clean rocket engine components before and after testing. Accidental spills and releases of solvents, rocket fuels, and oxidizers have resulted in contamination. Recent monitoring of the wastewater generated during engine tests yielded reasonable potential for Total Petroleum Hydrocarbons (TPH), naphthalene, metals, ethylene dibromide, tertiary butyl alcohol and TCDD. Effluent limits and monitoring requirements for these constituents as well as several metals have been included at the rocket engine test stands. An effluent limit for TCE has been included at Outfalls 001, 002, 011, and 018 and routine monitoring for all volatile organic compounds (VOCs) has been included at all locations.

These tests routinely occurred prior to the adoption of Order R4-2006-0008, which included effluent limits for deluge/cooling water discharged from the area. Since Order R4-2006-0008 became effective, Boeing has terminated these operations and is in the process of securing the permits to build a berm that will be used to contain the deluge water. The wastewater, if handled as proposed, will be pumped into Baker Tanks as it is discharged from the test stand (or as soon as possible thereafter), and subsequently trucked offsite for disposal.

Historical Operations: Other facility operations included the destruction of explosive and flammable wastes by open pit burning. Past operations have resulted in soil and sediment contamination of a number of metals including arsenic, cadmium, copper, lead, silver mercury, and nickel, as well as polycyclic aromatic hydrocarbons (PAHs), Total Recoverable Petroleum Hydrocarbons (TRPH), TCDD and VOCs. These constituents were identified as chemicals of

concern by California Department of Toxic Substances Control (DTSC) and have been detected in soil and/or sediment.

Perchlorate has historically been used at SSFL in solid propellant for rockets and missiles. Surface water monitoring at Outfall 008 yielded data that confirmed the presence of perchlorate in storm water runoff in the Happy Valley area. Perchlorate has also been detected in some of the groundwater wells utilized in the cleanup operations ongoing with DTSC oversight.

Perchlorate can interfere with iodide uptake by the thyroid gland; this can result in a decrease in the production of thyroid harmones, which are needed for prenatal and postnatal growth and development, as well as for normal metabolism. Monitoring requirements and an effluent limit for perchlorate has been included in the permit. This perchlorate concentration in storm water runoff and in soil in the Happy Valley area resulted in the completion of an interim measure to remove the perchlorate-impacted soil that was completed with DTSC oversight.

Current and Future Operations: Since the SSFL is a test facility, it is difficult to anticipate future test projects and possible wastewater generation. Following are descriptions of expected operations:

1. Treatment Under Tiered Permitting Rules. Boeing may explore the feasibility of treating certain waste streams by either a mobile of fixed hazardous waste treatment unit operating under DTSC Permit-by-Rule requirements. Treated effluent could then be released into the ponds.

2. There may be unspecified waste streams generated during remediation, cleaning, assembly, testing and support operations at the facility.

Groundwater Remediation: During the early 1950s to the mid-1970s, VOCs were utilized for the cleaning of hardware and rocket engine thrust chambers, and for the cleaning of other equipment. These solvents migrated into the subsurface, contaminating groundwater primarily with trichloroethylene (TCE) and 1,2-dichloroethylene (1,2-DCE).

As a result, there is now an extensive groundwater remediation/investigation program in progress at the SSFL, which includes pumping, treating and storing groundwater at the facility. These treatment systems are regulated under Resource Conservation and Recovery Act (RCRA) part A and part B hazardous waste permits by DTSC, and various air quality control permits issued by Ventura County. Future plans to add new wells may increase the volume into the system by 25%. In addition, there will also be intermittent pilot projects where test wells will be drilled and groundwater treated to determine optimum locations for future wells. Effluent from the groundwater remediation operations is discharged to the water reclamation system onsite via naturally occurring streambeds and in some cases man made watercourses. The permit includes effluent limits for TCE and other VOCs along with monitoring requirements for these constituents.

Sewage Treatment Plants: Historically, two package-type activated sludge sewage treatment plants (STP1 and STP3) provide secondary and tertiary treatment for the sewage. Disinfected sewage effluents from the activated sludge facilities are directed, via constructed and natural

drainages, to the reclaimed water system reservoirs. Water from the reservoirs previously was reused for industrial purposes. A third activated sludge sewage treatment plant (STP2) is available, but is currently used only as a pump station to STP-3 and as temporary storage of excess sewage.

The permit includes effluent limits for Basin Plan constituents, conventional pollutants and a number of priority pollutants at the sewage treatment plants.

Water Reclamation System and Discharges: When in operation, effluent discharges from STP1 and STP3, the two sewage treatment plants, subsequently enter the water reclamation system onsite. The SSFL utilizes a system of natural, unlined and man-made ponds and channels to collect and reuse water as a cooling media and fire suppression system for rocket engine and component hot fire testing. Water supplied to the system comes from any one or a combination of the following sources: storm water, treated groundwater, tertiary treated sanitary sewage, recycled test cooling water, or domestic water purchased from an established purveyor.

Most recently discharges to the unlined ponds are allowed to remain there allowing evaporation, and filtration to occur. During the rainy season storm water runoff is also collected in these ponds and may cause discharges from the ponds. The discharges from the ponds eventually discharge offsite to Bell Creek, a tributary of the Los Angeles River, a water of the United States.

Many of the historical operations at the SSFL have resulted in surface soils, sediment, and groundwater contamination. The facility is currently involved in a RCRA assessment and cleanup. Included in the areas identified with contaminants are the ponds located onsite. This permit includes effluent limits for Basin Plan constituents, a number of priority pollutants and other chemicals of concern at two of the ponds, the R2-Spillway (Outfall 018) and Perimeter Pond (Outfall 011).

Storm Water: In 1989, EPA conducted an investigation and submitted a report on SSFL environmental issues. The report specified under the recommended and planned actions that the Regional Board was to use the Clean Water Act to ensure run-off from the northwest side of Area IV was not contaminated. In response to the request, Rocketdyne developed a surface water monitoring program for the northwest slope area that was subsequently approved by EPA and implemented.

Discharge Outfall	Latitude (North)	Longitude (West)	Vicinity
003 (RMHF)	34° 14' 4.0"	118° 42' 38.4"	Radioactive Materials Handling Facility
004 (SRE)	34° 14' 9.1"	118° 42' 23.9"	Sodium Reactor Experiment
005 (SBP-1)	34° 13' 48.1"	118° 43' 3.9"	Sodium Burn Pit 1
006 (SBP 2)	34° 13' 50.7"	118° 42' 59.9"	Sodium Burn Pit 2
007 (B100)	34° 13' 50.2"	118° 42' 52.5"	Building 100

The Discharger began monitoring at these locations for radioactivity and for a number of other priority pollutants including metals in early 1993. The permit, which was adopted on

December 7, 1992 and became effective 60 days after adoption, required quarterly monitoring for priority pollutants. This data provided the basis to include numerical effluent limits for storm water traversing these areas in the subsequent permit (Order 98-051) for Basin Plan constituents, radionuclides, and for a number of metals including antimony, cadmium copper, and mercury. An effluent limit and monitoring was included for TCDD in Order R4-2004-0111.

Most recently three new outfalls have been added to capture runoff from other areas of concern. They three new outfalls are:

Discharge Outfall	Latitude (North)	Longitude (West)	Vicinity
008 (Happy Valley)	Not Available	Not Available	Perchlorate Use
009 (WS-13)	Not Available	Not Available	WS-13 Drainage Area
010(Bldg. 203)	Not Available	Not Available	Building 203

The samples collected are analyzed for radioactivity and for a number of other priority pollutants and chemicals of concern that may be present. The data was used to determine reasonable potential for the concentration of the chemical of concern to cause or contribute to an exceedance of the applicable water quality based effluent limit (WQBELS). These locations include effluent limits and monitoring requirements for a number of metals, TCDD and for radionuclides.

Following are Regional Board responses to issues raised in the Memorandum of Points and Authorities in Support of the Boeing Company's Petition for Review of Waste Discharge Requirements Orders Nos. R4-2004-0111 and R4-2006-0008 [NPDES No. CA0001309].

I. Factual and Procedural History

A. Description of SSFL

See Site Description and History that appears on pages 1 through 5 of this document.

B. Summary of NPDES Permit Regulation of SSFL

1. 1998 Permit

The 1998 Permit included numeric effluent limitations for storm water traversing areas, which have soil contamination present as a result of historical operations at the site. As is stipulated in the Fact Sheet of Order R4-2004-0111, after EPA completed a review of the site, the Regional Board was directed to evaluate the potential transport of contaminants offsite via storm water in specific areas. Evaluation of the contaminant concentrations in the storm water provided the basis for including numeric effluent limitations in the permit for a number of constituents.

The effluent limitations in the 1998 Permit were based on the Basin Plan, National Toxics Rule (NTR), and California (Title 22) and National Drinking Water

Standards to protect the beneficial uses of the receiving waters. The storm water only effluent limitation included in Order 98-051 were primarily based on the NTR. Boeing did not challenge the 1998 permit. [?????VERIFY???]

2. 2004 Permit and Appeal

On July 1, 2004, the Regional Board adopted Order No. R4-2004-0111 (2004 Permit) renewing waste discharge requirements that regulate the discharge of wastewater and storm water from the Santa Susana Field Laboratory (SSFL or Discharger). Wastewater mixed with storm water exiting the SSFL facility to the south discharges to Bell Creek, a tributary to the Los Angeles River. Storm water only exiting from Happy Valley discharges to Dayton Canyon Creek flows via Chatsworth Creek to Bell Creek, a tributary to the Los Angeles River. Storm water only discharges exiting the northern site boundary flows via natural drainages to Arroyo Simi a tributary to Calleguas Creek.

Order R4-2004-0111 contains water quality-based effluent limitations incorporating the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), EPA *Technical Support Document for Water Quality-based Toxics Control* and the water quality standards established in the California Toxics Rule[2] (CTR), the Los Angeles Region Basin Plan and California or National Drinking Water Standards.

The 2004 Permit included ten new compliance points that incorporated Basin Plan criteria and a requirement for monitoring priority pollutants and other chemicals of concern. These locations coincided with operations generating wastewater normally discharged to natural drainages onsite (i.e., three package type sewage treatment plants, three rocket engine test stands), two onsite ponds used to collect/store wastewater and storm water, and three new storm water only compliance points. Several tentative drafts were issued of this Order. With each successive draft, the Regional Board staff recommended revisions to address concerns raised by the Discharger and other interested persons. The Regional Board initially considered the revised tentative Order during the May 6, 2004 Board Hearing. After hearing testimony from Regional Board staff, the Discharger, and a host of interested parties, the Board asked staff to consider options available to address concerns regarding the volatiles including TCE, vinyl chloride, benzene, carbon tetrachloride, 1,1,1-trichloroethane, etc. that were not included with effluent limitations in the permit at Outfalls 001 and 002. Board staff reviewed the data available and submitted the revised-tentative for Board consideration at the July 1, 2004 Board Hearing. The Regional Board concluded that based on the fact that a large amount of TCE is in the groundwater beneath the site, they would require that an effluent limit for the constituent be included.[3] As stated in the Order "Data and testimony indicate that approximately 530,000

[2] 40 C.F.R. § 131.38.
[3] Admin Record SWRCB/OCC Files A-1653 and A1737. Box 4, Folder 2, Item 1, July 1, 2004, Transcript.

gallons of TCE were released to the soil and groundwater at the Facility. The tremendous volume of TCE released at the site warrants significant scrutiny. While recent monitoring data do not show TCE in surface water discharges scouring from large storm events may release soils with adsorbed TCE."[4] The Regional Board during the July 1, 2004 Board Hearing utilized the information presented along with potential effects associated with exposure to TCE to provide the basis for including a water quality-based effluent limitation for the contaminant.

40 CFR Part 122.45(c) specifies that the effluent limitations for metals in permits be stated as total recoverable in most cases except when an effluent guideline specifies the limitation in another form of the metal, the approved analytical methods measure only dissolved metal, or the permit writer express a metal's limit in another form when required to carry out the provision of the CWA. Order 98-051 included a number of effluent limitations that were dissolved criteria. Hence, the 2004 Permit in order to comply with federal regulations required that the method of analysis used for these constituents (primarily metals) be changed to a method for total. The 1998 Permit included analysis for TCDD (2,3,7,8-TCDD). The CTR and the SIP provided guidance directing the analysis of 17 congeners of TCDD. The resultant concentrations of each congener is multiplied by a toxic equivalency factor (TEF) and the results for all of the congeners are summed to calculate a value for the TCDD equivalents present in the discharge.

During the public comment period, Boeing requested that their individual NPDES permit be rescinded and that they be enrolled under the general Storm Water Industrial permit. However, the Fact Sheet of General Order No. 97-03-DWQ No. CAS000001 specifies the types of discharges not covered by the General Permit, (Page V, Item #3). "Facilities determined ineligible by Regional Water Boards. Regional Water Boards may determine that discharges from facilities or groups of facilities, otherwise eligible for coverage under this General Permit, have potential water quality impacts that may not be appropriately addressed by this General Permit. In such cases, a Regional Water Board may require such discharges to be covered by an individual NPDES."

Regional Board staff believed prior to the adoption of the 2004 Permit that the Discharger may not be able to immediately comply with final limitations for copper, lead, and mercury at Outfalls 001 and 002. Detected effluent concentrations of cadmium, copper, mercury, and TCDD were also elevated relative to the proposed WQBELs. Staff initially included a compliance section in the draft of the permit with interim effluent concentrations for those constituents. Representatives from Boeing indicated that they believed they would be able to meet the final limitations and requested that the compliance schedule and interim effluent concentrations be removed from the draft permit.[5] Board staff was aware

[4] Admin Record SWRCB/OCC Files A-1653 and A1737. Box 6, Folder 1, Item 1, Order R4-2004-0111, Page 28, Item No. 73

[5] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 1, Folder 7, Item 20.

that the detected contaminant concentrations were elevated such that compliance may be a problem.

The 2004 Permit also included a provision requiring that the permit be revisited annually to determine if reasonable potential was demonstrated for any new constituents without limitations. Staff was directed to complete the reasonable potential analysis and at the earliest possible date bring the updated permit back to the Regional Board for appropriate revisions.

The Boeing Company filed an appeal of the 2004 Permit, but immediately requested that the appeal be put in abeyance. Committee to Bridge the Gap also filed a petition of the permit requesting a stay. The petition requested that the State Board issue an order: (1) setting aside the Regional Board's Order No. R4-2004-0111, (2) remanding the matter for reconsideration and rehearing after provision of adequate public notice and opportunity for public comment, (3) directing the Regional Board to conduct a reasonable potential analysis for all potential toxicants and for all outfalls, (4) directing the Regional Board to require that interim requirements for providing data, if imposed, include provisions that ensure that such data be collected as soon as possible and include all relevant information in addition to effluent and receiving water quality data.[6]

The State Board after hearing the evidence in the case issued Order No. WQO 2004-0014, denying the requested stay[7].

3. 2006 Permit Revisions and Appeal

The Discharger from the effective date of the 2004 Permit, August 20, 2004 to May 5, 2005 reported forty-four violations of effluent limitations. The Boeing Company on July 15, 2005 submitted a request to revise the Waste Discharge Requirements for the Boeing Company, SSFL. The letter also included a request that the revised permit include interim effluent concentrations and a time schedule. On October 5, 2005 Mr. Dan Hirsch, Holly Huff, Sheldon Plotkin, Christina Walsh and Elizabeth Crawford submitted to Susan Cloke, Chair of the Los Angeles Regional Board, a letter outlining constituents detected with concentrations that exceeded criteria in the 2004 Permit. On November 15, 2005 a letter was submitted by Jonathan S. Bishop, Executive Officer of the Regional Board, responding to the Request for revision of the waste discharge requirements[8]. The letter stipulated that Regional Board staff would complete of a reasonable potential analysis, evaluating all of the new data submitted since the adoption of the 2004 Permit. The Regional Board on November 30, 2005, issued a Cleanup and Abatement Order No. R4-2005-0077 for the Boeing

[6] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 6, Folder 2, Item 1, Page 4.
[7] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 6, Folder 5, Item 5.
[8] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 7, Folder 6, Item 7.

Company[9], Santa Susana Field Laboratory, requesting a plan for the Discharger to come into full compliance with the current Order (2004 Permit).

After completing the revised RPA, a tentative amendment to the 2004 Permit (issued for public comment on November 30, 2005) and a tentative Cease and Desist Order (CDO) (submitted for public comment on December 19, 2005) which included a time schedule and interim contaminant concentrations for several constituents were developed. Comments were received from the Discharger and other interested parties. Regional Board staff responded to the comments and issued revised-tentative versions of both the amendment and the CDO.

As is outlined in paragraph one of Item 3 on Page 11 of the Points and Authorities in support of the Boeing Company's Petition for review of the 2006 permit that added a number of effluent limitations to compliance points that previously had monitoring requirements only. Basins Plan constituents appropriate for the receiving water were included in the permit for those outfalls. The completion of the RPA provided the basis for including priority pollutants and other chemicals of concern present in the discharges or in similar discharges at concentrations in excess of WQBELS.

On January 19, 2006, the Regional Board considered the revised-tentative amendment and CDO. The permit included new effluent limitations for chemicals of concern with reasonable potential at Outfalls 001 through 018. The revised tentative CDO included a time schedule, which would sunset on August 31, 2006, and interim contaminant concentrations for a subset of the all constituents demonstrating reasonable potential (RP). During the January 19, 2006 Board meeting, the Discharger asserted that it would be unable to immediately comply with the final effluent limitations and may not be able to immediately comply with the interim effluent concentrations included in the tentative CDO. These assertions were based on the fact that the Topanga Fire, which occurred in September 2005, burned much of the site and therefore it could not be predicted specifically what contaminant concentrations would be present in discharges from the site. They further asserted that since the discharge is primarily storm water, they are unable to control the discharge.

The Board members reiterated the fact that the Discharger has over the years violated the requirements of the NPDES permits (1998 and 2004 Permits). A considerable amount of frustration was evident with respect to the fact that the Discharger had never been able to consistently comply with the effluent limitations.

[9] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 7, Folder 6, Item 13.

After considerable discussion, the Regional Board adopted the amendment (Order R4-2006-0008). Five of the Board members voted to adopt the permit with one Board Member present voting no.

The revised tentative CDO was considered separately. Again there was considerable discussion regarding the Discharger's inability to comply with the effluent limitations even prior to the inclusion of the CTR based WQBELs. Below are some of the comments from two of the Board Members.

Board Member Marin's testimony included the statement "Well, I agree with you in concluding that it doesn't seem from the history of this situation that giving them more time is necessarily going to get us further faster, that there certainly hasn't been any evidence to suggest that time is going to improve the situation. So I agree that we do have to give them a higher sense of urgency."

Vice Chair Diamond's testimony again summarized the frustration that the Regional Board has come to with their attempts to provide Boeing with opportunities to comply with the permit. She summarized by saying, "Then if the cleanup and abatement order -- if we're back to the cleanup and abatement order, which is where we were the last time we heard this, not last month but before that, then that's where I think I come down as a Board member not to support the cease and desist order. Because I believe that what we're going to find is we're going to have these interim limits for the next seven or eight months, if history... teaches us anything, so they'll have lower limits for all of these elements. And at the same time when that time comes August of 2006, we'll be back here again either requesting an additional amount of time or they haven't been able to meet it or -- I mean I just don't see the purpose of for me of continuing with this. I think, you know, our job is to protect public health -- first of all, to protect water quality and therefore public health, and costs are huge. But, again, I'm asking who bears these costs? And I think the public has borne these costs. And I think now it's time for the polluter to bear the costs."

After considerable discussion a motion was made to adopt the revised tentative CDO with two updates:

- the compliance schedule was shortened to May 1, 2006, and
- the fines stipulated for violations were increased to $10,000 per violation.

During the consideration, Ms Rubalcava stated "During that rainfall event not all of the outfalls flowed. Plus we've had a second rainfall event in November where we've seen higher limits. So, yes, the CDO might give us some level of protection, but it's -- for many outfalls it's certainly based on pre-fire data. So you're giving, then taking away at the same time, because, you know, to get you what might be a little bit of protection right now I think you're essentially saying then henceforth we're going to be subject to a minimum mandatory of $10,000, you know, per violation. And that doesn't seem right to me, because we're not -- again, interim limits in the CDO, my understanding of them, is they're supposed

to be performance based. We have performance-based limits based on last year's performance, of which Cassandra has calculated using the MEC. But we have changed site conditions. We have the whole site that's turned now. So it's kind of a -- it's an apples and oranges."

The Discharger did not express confidence that even though the interim effluent concentrations included in the revised-tentative CDO were determined using all of the data available, that the discharges would be able to comply with them. After deliberation, the Regional Board voted on the motion to adopt the revised tentative CDO as modified in the motion and noted previously. There were three votes yes and three votes no; therefore the resolution to adopt the revised tentative CDO did not carry.

4. Order R4-2006-0036 Amending Order R4-2006-0008

Late in the development of the tentative update to Order R4-2006-0008 staff became aware that requirements associated with the Los Angeles Metals and Nutrients (nitrogen) Total Maximum Daily Loads (TMDLs) had not bee included. A change sheet was prepared and presented to the Board at the January 19, 2006 Board Hearing. Since the appropriate public comment period had not been satisfied, Board staff was directed by the Regional Board to notice the inclusion of the TMDL related effluent limitations and bring the required updated for Board consideration at a subsequent meeting.

On January 24, 2006, a letter was sent to Boeing and to other interested parties providing public notice for the inclusion of the TMDL associated WQBELs into the updated permit. The interested parties were invited to comment on the proposed updates by February 23, 2006. The comments submitted and the Regional Board responses are outlined in the letter dated March 3, 2006.[10] The Discharger asserts that the TMDL specifically requires a compliance plan. As is stipulated in the Response to Comments Table, Item 2, none of the constituents added to comply with nutrients TMDL demonstrated RP. Therefore, a compliance schedule was not developed for those constituents.

In addition, Boeing claims that they should only have to monitor for nutrients. However, that is not the case. The Nutrient TMDL contains such a monitoring requirement for non-point sources. Since the discharges from SSFL outfalls are point source discharges, the monitoring-only requirement does not apply. Effluent limitations based on the TMDL waste load allocations (WLAs) are more appropriate.

The Implementation Plan for the Los Angeles River Nutrient TMDL includes a time table to allow upgrades to the publicly owned treatment works (POTWs) discharging to Los Angeles River for removal of nutrients. The interim limitations were provided to the POTWs during construction and startup of

[10] Admin Record SWRCB/OCC Files A-1653 and A-1737, Folder 7, Box 8, Item 6.

nitrification/denitrification processes. There were no specific requirements for minor point sources such as upgrading the system to meet the final WLAs, therefore no interim limitations were specified in the TMDL.

The same response acknowledges that "the Los Angeles River Metals TMDL specifies that Regional Board permit writers shall incorporate WLAs into NPDES permits on the effective date of the TMDL." The response also stipulates that "The implementation schedule indicates that compliance **may** allow up to five years to meet the permit requirements." (emphasis added.)

A review of the metals that required WLAs as a result of implementing the metals TMDL indicating that only one metal, cadmium at Outfalls 015 thorough 017, had been detected at concentrations in excess of the TMDL related WQBELs. Therefore, a change sheet was submitted during the Board Hearing to incorporate an interim effluent limit for cadmium at that location.

The Regional Board, after considering the evidence submitted and the testimony provided, adopted the proposed update including an interim concentration of 4 □g/L for cadmium. The interim concentration is in effect through April 26, 2007.

Much of the information presented during the stay hearing by Sharon Rubalcava and Ms. Paulson was based on information attached to a letter from Ms. Rubalcava to Jonathan S. Bishop, Los Angeles Regional Water Quality Control Board dated February 23, 2006 - Tentative Update to Order R4-2006-0008 Adopted by the Regional Board on January 19, 2006 – Boeing Company, Santa Susana Field Laboratory, Canoga Park (NPDES NO. CA0001309, CI No. 6027)[11]. Attachment A, to this document provides a response to several of the assertions put forth in that document and during the stay hearing.

Boeing asserts on Page 13 of the Memorandum of Points and Authorities in Support of the Boeing Company's Petition for Review that it is unable to immediately comply with the newly proposed limitations. However, during the March 9, 2006 Board Hearing when Dr. Susan Paulsen was asked if there was data to prove that the Discharger could not comply, she was not able to specify that they had data to prove that the discharged concentrations would not immediately comply with new effluent limitations for constituents included in the TMDL based revisions to the permit.

Since, the Discharger could not provide evidence that they required interim effluent concentrations or a compliance schedule, the Regional Board was well within its legal authority and discretion to not include interim effluent concentrations for those constituents.

A November 22, 2002 Memorandum was issued from Robert H. Wayland, III and James A. Hanlon of USEPA outlined the strategy for *Establishing Total Maximum*

[11] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 8, Folder 6, Item 17.

Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs.[12] The memo stipulates the following with regard to WLAs and NPDES permits:

- NPDES permit conditions must be consistent with the assumptions and requirement of available WLAs.
- WQBELS for NPDES-regulated storm water discharges that implement WLAs in TMDLs may be expressed in the form of best management practices under specified circumstances. If best management practices (BMPs) alone adequately implement the WLAs, then additional controls are not necessary.
- When a non-numeric water quality-based effluent limit is imposed, the permit's administrative record, including the fact sheet when one is required, needs to support that the BMPs are expected to be sufficient to implement the WLA in the TMDL.

Representatives from Boeing have indicated that the BMPs that are currently used may not be adequate to meet the stipulated WLAs for metals and nutrients implemented in Order R4-2006-0036. Testimony provided by representative from Boeing during the March 9, 2006 Board Hearing indicates the BMPs are **not** expected to be sufficient to comply with the WLAs in the TMDL.

C. Effects of Natural Events and Condition on Permit Compliance

Boeing acknowledges that contamination from historic operations does exist at SSFL. The conclusion that historic contamination does not appear to be impacting surface water quality cannot be justified based on the information included in the record. The constituents that have yielded multiple violations include, copper, mercury, and TCDD. The list of chemicals for monitoring at NPDES locations, proposed by DTSC during the comment period for the 2004 permit, included all of these constituents as well as many others.[13] Thus it appears that the soil and sediment contamination onsite may well be contributing to the exceedances reported in the surface water discharges from the site. In some instances, where remedial actions have taken place to remove the contaminants in soil, i.e. perchlorate in Happy Valley, the contaminant concentrations in the storm water runoff from the area have decreased such that the Discharger has consistently been in compliance with WQBELs for the constituent. Boeing presented a pie chart slide indicating that they were in compliance 98 % of the time.

However, an interim measure is only the initial step towards removing the contamination present in soils and sediment. It is not the final remedial action. Completion of the interim measure may result in residual levels of contamination. Those levels may be significant enough to result in contaminant concentrations above the prescribed WQBELs in storm water. Most of the contamination that has been identified during the

[12] Admin Record SWRCB/OCC Files A-1653 and A-1737, Box 9, Folder 1, Item 1.
[13] Admin Record SWRCB/OCC Files A-1653 & A-1737, Folder 1, Box 2, Item 11

RCRA assessment by DTSC has not been cleaned up. That contamination is in the surface soils, the pond sediment, drainage sediment, and in the groundwater. DTSC has identified fifty Solid Waste Management Units (SWMUs) at the SSFL site and none of the SWMUs have undergone formal RCRA Closures.

From August 1998 through May 2003, the Discharger reported numerous violations of a host of constituents including manganese, mercury, copper, antimony, and turbidity. These violations occurred prior to the Piru and Simi Fires referenced in the Points and Authorities Document (2nd paragraph, Page 14).

Beginning on September 28, 2005, the Topanga Fire swept though the SSFL and burned much of the site. Board staff agrees that the fire has likely resulted in the deposition of ash and other contaminants on the site.

Boeing has assumed that the fire will adversely impact its ability to comply with permit requirements. The data available, however, cannot be attributed solely to effects of the fire.

D. Boeing's Ongoing Efforts to Implement and Upgrade BMPs

Boeing, recently, has increased efforts to address contamination onsite by specifically tailoring the BMPs implemented. During the last storm season, efforts were made to implement BMPs around SWMUs, which were identified during the RCRA assessment and cleanup that have surface soil contamination, to ensure that storm water drained around the area. Boeing should continue to upgrade and maintain their BMPs.

Boeing may also wish to evaluate the current operations to identify alternative protocols that could be implemented which may result in discharges of less contaminants or potentially no discharge at all.

II. ANALYSIS: INTRODUCTION

The Los Angels Regional Water Quality Control Board (Regional Board) Lawfully And Properly Exercised Its Authority In Adding Certain Numeric Effluent Limitations to the NPDES permit as amended in 2004 and 2006, for the Santa Susana Field Laboratory (SSFL) in Canoga Park, California.

The Clean Water Act's implementing regulations require all point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States.[14] The control of the discharge of pollutants is established through NPDES permits that contain effluent limitations and standards. The Clean Water Act establishes two principal bases for effluent limitations. First, dischargers are required to meet

[14] 40 C.F.R. § 122.44(d)(1)(i).

technology-based[15] effluent limitations that reflect the best controls available considering costs and economic impact. These technology-based requirements only establish minimum levels of controls appropriate to the specific type of discharger. Second, the CWA also requires that dischargers meet "any more stringent effluent limitations, including those necessary to meet water quality standards...."[16] In other words, dischargers are required to meet WQBELs that are developed to protect applicable designated uses of the receiving water. As detailed in the referenced NPDES Orders, and in 40 C.F.R. section 122.44(d), discharges from SSFL are subject to water quality-based effluent limitations.

The NPDES permit, Order No. 98-051, which was in effect prior to the adoption of Order Nos. R4-2004-0111, R4-2006-0008, and R4-2006-0036, contained WQBELs. Order No. 98-051 was not petitioned. SSFL has been subject to WQBELs for years.

1. **Regional Board Lawfully and Properly Exercised Its Authority In Prescribing WQBELs for Priority Toxic Pollutants.**

The USEPA's regulations[17] require the Regional Board to incorporate WQBELs for constituents that have a RP to cause, or contribute to an excursion above applicable water quality objectives/criteria. For priority toxic pollutants discharged via the outfalls that transport wastewater and storm water offsite, the Regional Board used the historical information about the facility, recent information regarding the RCRA assessment and cleanup, and discharger's monitoring data and followed the statistical procedures outlined in the State Water Resources Control Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) and US EPA *Technical Support Document for Water Quality-based Toxics Control* (TSD) to conduct a RPA,[18] to determine if SSFL's discharge had reasonable potential to cause, or contribute to an excursion above applicable water quality objectives/criteria. The SSFL NPDES permits prescribe final effluent limitations, calculated in accordance with section 1.4 of the SIP, for those priority toxic pollutants that had reasonable potential to cause or contribute to an exceedance of an applicable water quality objective/criterion.

USEPA promulgated the CTR, which establishes water quality standards for certain priority toxic pollutants, in California's inland surface waters, including pollutants in SSFL's discharges.[19] CTR criteria serve as state water quality standards for the State's applicable aquatic life (WARM or EST) or human health (REC-1) beneficial uses[20] designated in the Basin Plan. The CTR applies to all inland surface waters in the State,[21] except for ocean waters covered by the Ocean Plan. Further, the preamble to the final CTR recognizes that

[15] Technology-based requirements for industries at CWA section 301(b)(1)(A) and (b)(2). (33 U.S.C § 1311.)
[16] CWA § 301(b)(1)(C). (33 U.S.C. § 1311(b)(1)(c).)
[17] 40 C.F.R. § 122.44(d)(1).
[18] See p. 4-18 of the SIP
[19] 40 C.F.R. § 131.38; 65 Fed.Reg. 31682 et seq. (May 18, 2000).
[20] 40 C.F.R. § 131.38(d)(1).
[21] See 40 C.F.R. § 131.38(a)(1).

"[i]f a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criteria, the permitting authority must develop permit limitations as necessary to meet water quality standards."[22] This RPA language parallels that found in 40 C.F.R. section 122.44(d)(1). The adopted Orders contain the appropriate WQBELs.

2. **The Regional Board Properly Utilized the California Toxics Rule and USEPA's Technical Support Document for the Water Quality-based Toxics Control to Develop Effluent Limitations for Storm Water Only Discharges From the Site.**

Boeing asserts that WQBELs derived from the California Toxic Rule (40 CFR Part 131) are not appropriate for storm water discharges. The CTR, however, does apply to storm water, and WQBELs derived from it may be applicable to any point source discharge to a water of the United States, whether storm water or otherwise. As USEPA stated when it adopted the CTR: "In section 402(p)(3)(A), Congress requires that "discharges associated with industrial activity shall meet all applicable provisions [section 402] and section [301]." (33 U.S.C. section 1342(p)(3)(A).) The Court noted, therefore, that by incorporation industrial storm water discharges need to achieve " any more stringent limitation, including those necessary to meet water quality standards...." The Court explained that industrial storm water discharges "must comply strictly with State water quality standards...". (65 Fed. Reg. 31703 (May 18, 2000), §4. Wet Weather Flows.)

EPA also stated "The interim permitting approach uses BMPs in the first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standard. In some cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits as necessary and appropriate." (Ibid.)

There is no statewide policy statement with regard to the inclusion of numeric effluent limitations for storm water only discharges. However, a number of industrial dischargers of storm water only, have numeric effluent limitations in their NPDES permits. The SSFL is not a typical industrial discharger. Review of site history included in the Fact Sheet for Order R4-2004-0111[23] provides information regarding historical operations onsite that have resulted in soil, sediment and groundwater contamination. The site contains fifty (50) SWMU undergoing RCRA corrective action. None of those SWMUs have been formally closed. The site contaminants are not confined to one area, but are various types of contamination are pervasive throughout the developed area. Storm water provides the mechanism to transport surface soil and sediment contamination offsite. Attempts by the Discharger to control the transport of these contaminants have not been successful.

[22] 65 Fed.Reg 31702; see also 40 C.F.R. § 122.44(d)(1),(3).
[23] Admin Record SWRCB/OCC Files A-1653 and A-1737; Box 6, Folder 1, Item 1, Fact Sheet Pages 3-12.

Facility operations that were ongoing during the development of Order R4-2004-0111 (2004 Permit) routinely generate wastewater which contained contaminant concentrations in excess of applicable WQBELs. Those operations included three package type sewage treatment plants, groundwater treatment systems, and rocket engine test operations. Prior to the development of the 2004 Permit, wastewater from these operations were routinely discharged to lined and natural channels onsite that transported the wastewater to downstream ponds for storage or reuse. These channels are tributaries to Bell Creek, a tributary of the Los Angeles River.

The contaminants are present and/or generated onsite and the mixed wastewater and storm water provide the mode of transport of the contaminants. The Regional Board utilized available regulations, and policy to control the discharge of these contaminants to waters of the United States.

The CWA, NPDES regulations, and EPA's national guidance for water quality based permitting clearly envision that effluent limitations should be expressed numerically. (See CWA 301(b)(1)(C) and 502(11); 40 CFR 122.44(d) and 122.2; and *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991, "TSD".) Indeed, the entirety of the TSD, which provides guidance for implementing 40 CFR 122.44(d)(1), focuses on procedures for establishing numerical WQBELs for whole effluent toxicity and chemicals derived from both numerical and narrative water quality criteria.

USEPA has expressed previously that a narrative effluent limit may be appropriate, provided that the limit: (1) restricts the quantity, rate, or concentration of the discharged pollutant; (2) will ensure compliance with applicable water quality standards; and (3) is enforceable.

Also note that 40 CFR 122.44(k)(3) allows the use of BMPs in lieu of a numerical effluent limit where the calculation of a numerical limit is infeasible. Boeing erroneously interprets this section of the federal regulations to mean if it is infeasible to comply. By its express terms, however, infeasibility relates to calculation of, not compliance with, numerical effluent limitations. As demonstrated by permits in California and across the country, this is not the case for metals, nutrients, and other pollutants being disputed by Boeing, which are quite plainly calculable. The issued permits are clearly consistent with applicable CWA requirements, the CTR, and EPA's national guidance in the TSD.

Boeing proposes a departure from other water quality based permits by removing the numeric effluent limitations where reasonable potential to exceed a water quality objective has been established. We see nothing in the permits (once these limitations are removed) that would serve as WQBELs for those pollutants.

During review of a petition for a stay of the 2004 Permit for SSFL submitted by Committee to Bridge the Gap, the State Board reviewed a number of aspects of the Permit. A footnote that appears in the memo from Craig M. Wilson to Celeste Cantu dated January 28, 2005 with the subject: "Petition for Committee to Bridge the Gap

(Waste Discharge Requirements Order No. R4-2004-0111 [NPDES No. CA0001309] for Boeing Company's Santa Susana Field Laboratory), Los Angeles Region: Proposed Dismissal SWRCB/OCC File A-1623 (a) on page 3 stipulates that "The Clean Water Act does not require storm water discharges to be regulated with numeric effluent limitations. As such the SIP is ordinarily inapplicable to storm water only discharges. (See SIP, p.1, footnote 1.) The State does have discretion; however, to impose numeric effluent limitations on storm water if necessary to attain water quality standards. (Defenders of Wildlife v. Browner (1999) ..... Where the Regional Board decides to do so, it is nevertheless appropriate to apply the SIP methodologies. In this permit, the Regional Board determined that it was appropriate to consider imposing numeric effluent limitations to regulate the storm water only dischargers." This supports staff's assertion that the Board has discretion with regard to imposing numeric effluent limitations for storm water. This, coupled with the fact that not including the numeric effluent limitations may constitute backsliding, provides compelling evidence to include the limitations.

3. **Effective Dates of Effluent Limitations Included in the Orders are Appropriate Based on the Administrative Procedures Manual**

Boeing contends that the effluent limitations are immediately enforceable, and objects to not receiving a Time Schedule Order for compliance. For the sake of clarity, Boeing's contention that the effluent limitations are "immediately enforceable" is not entirely accurate. The effluent limitations became enforceable when the permit became effective. The State Water Resources Control Board Administrative Procedures Manual Water Quality Chapter 1, *NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS*, describes the conditions when the permit shall become effective on the adoption date.[24] The permit becomes effect on the adoption date only when:

- U.S. EPA has not objected to the permit;
- There has been no significant public comment;
- There has been no material change to the latest version of the draft permit sent to U.S. EPA for review (unless changes were made only to accommodate U.S. EPA comments); and
- The State Board or Regional Board does not specify a different effective date at the time of adoption.

If the above criteria are not satisfied, the final permit becomes effective fifty days after adoption.

Since Order Nos. R4-2004-0111, R4-2006-0008, and R4-2006-0036 were adopted after numerous public comments, the Orders became effective fifty days after the date of adoption. All of the effluent limitations included in the permit are in full force and effect on the effective date of the permit.

[24] Administrative Record SWRCB/OCC Files A-1653 and A-1737, Box 1, Folder 1, Item 1, Pages 19-20.

The reasons why a Cease and Desist Order with a Time Schedule was not granted are set forth elsewhere in this response.

4. **The Regional Board Considered the Monitoring Data, Effluent Violations, and the Discharger's Efforts to Address Elevated Contaminant Levels in Storm Water Runoff During the Hearing Deliberations**

The issues associated with the NPDES permit were carefully presented to the Board during consideration of Orders R4-2004-0111 on May 6, 2004 and subsequently on July 1, 2004. Remarks presented during the public comment period at the October 6, 2005 Board Hearing outlined the number of violations that had been reported by the Discharger after the adoption of Order No. R4-2004-0111.

The Regional Board directed staff to complete an updated RPA and to bring a revised permit to the next practicable Board hearing for consideration. The Regional Board staff considered the nature of the historical operations, the documented contamination that is onsite, ongoing RCRA assessment and cleanup activities, surface water monitoring data, and the compliance history. The detected concentrations for a number of the constituents indicated that the Discharger may not be able to immediately comply with the effluent limitations included in the permit.

Outfalls 008 through 018 are new compliance points established initially in Order R4-2004-0111. Outfall 008, previously referred to as Happy Valley, had monitoring data for perchlorate only, but Outfalls 009 through 018 had no monitoring data available. The monitoring data collected between August 20, 2004 and May 5, 2005 was used to evaluate reasonable potential for constituents of concern at these locations.

Outfalls 001, 002, 011, and 018 were evaluated together. These four outfalls transport wastewater and storm water offsite to Bell Creek. Outfalls 011 and 018 are the Perimeter Pond and R-2 Spillway, respectively. Wastewater collected in these ponds is mixed with storm water runoff during rain events. When the ponds become full, they overflow and discharges flow downstream to Outfalls 001 and 002. Since, Outfalls 011 and 018 are upstream of Outfalls 001 and 002, respectively and no additional treatment is applied, the effluent limitations that are applicable for Outfalls 001 and 002 are applied to discharges from Outfalls 011 and 018.

Outfalls 008 through 010 are storm water only outfalls. The data from these outfalls provide evidence that the discharges are very similar to those from the other storm water outfalls, Outfalls 003 through 007. Therefore, the data collected from the new storm water outfalls, Outfalls 008 through 010, were evaluated along with data collected from Outfalls 003 through 007.

Wastewater generated onsite at the rocket engine test stands (Outfalls 012 – 014) were evaluated together. The package type sewage treatment plants (Outfalls 015 - 017) were also evaluated together since the operations generating the discharges are the same.

The Executive Officer's Report at the November 3, 2005 Board Hearing, Mr. Jonathan Bishop, Executive Officer of the Regional Board, presented a summary of the findings and a path forward for including limitations in the permit for constituents that demonstrated RP but did not have limitations included in Order R4-2004-0111. The tentative update to Order R4-2004-0111 was considered during the hearing held on January 19, 2006, when Order R4-2006-0008 was adopted by the Regional Board.

Late in the development of the tentative update to Order R4-2004-0111 staff became aware that requirements associated with the recently adopted and approved Los Angeles Metals and Nutrients (nitrogen) TMDLs had not been included. A Change Sheet was prepared and presented to the Board at the January 19, 2006 Board Hearing. Since the appropriate public comment period had not been satisfied, Board staff was directed by the Regional Board to notice the inclusion of the TMDL related effluent limitations and bring the required updated for Board consideration at a subsequent meeting.

The data indicated that the contaminant concentrations of some of the constituents exceeded the WQBELs included in the tentative Order. Therefore, the Discharger may not be in full compliance with the permit. The Regional Board had a number of options available to deal with this situation. After considering all of the evidence available, they could have (1) adopted the proposed permit without interim effluent concentrations or a compliance schedule; (2) declined to adopt the proposed permit; or (3) adopted the proposed permit and provide the discharger with interim effluent concentrations and a time schedule to come into compliance. The consideration of a time schedule and interim effluent concentrations required that the proposal be available for public comment prior to consideration by the Regional Board. Therefore, Board staff developed a tentative CDO which included a time schedule and interim effluent concentrations. The tentative CDO was released for public comment on December 19, 2005.

Board staff received extensive comments from the public on the tentative CDO. The comments requested that the Discharger not be given additional time to come into compliance or interim effluent concentrations. The responses to the comments submitted resulted in the development of a revised-tentative CDO[25], which shortened the time frame of the compliance schedule and provided interim effluent concentrations for fewer constituents. The interim effluent concentrations in the revised tentative CDO were based on the maximum effluent concentration detected. The revised tentative CDO was considered by the Regional Board at the January 19, 2006 Board Hearing. During the hearing, the Board was made aware that staff was providing all the options

[25] Admin Record, SWRCB/OCC Files A-1653 and A1737: Box 8, Folder 3, Item 12, Response to Comments on Tentative CDO.

available to the Board.[26] With regard to the revised tentative CDO, they could (1) adopt it as proposed; (2) alter it as desired and adopt the updated version: or (3) not adopt it[27].

The Boeing Company has been unable to consistently comply with the effluent limitations for priority pollutants as well as Basin Plan constituents since 1998. Pages 12–14 of the Fact Sheet in Order R4-2004-0111 provide a summary of effluent violations of the previous NPDES permit, Order 98-051. The CTR, which was adopted on May 18, 2000, and the adoption of the *Policy for the Implementation of Toxics Standards for Inland Surface Waters Enclosed Bays, and Estuaries* (SIP) by State Board provided new effluent limitations for priority pollutants with an implementation protocol. Permits adopted after the adoption of the CTR implemented the limitations contained therein. Order R4-2004-0111 implemented the CTR utilizing the SIP, statistical RPA procedures. Since the adoption of the 2004 Permit, violations have continued for a number of constituents. Pages 15 through 16 of the Fact Sheet provide the Compliance Summary for Order R4-2004-0111.

Boeing, during the entire tenure of NPDES Order No. 98-051, utilized primarily hay bales, straw waddles, and tarping with some silt fencing as BMPs in an attempt to control the transport of contaminants offsite. Despite an excess of five years of chronic violations, Boeing failed to implement more sophisticated BMPs. The development of Order R4-2004-0111 and the imposition of CTR criteria resulted in Boeing's implementation of upgraded BMPs. The Topanga Fire destroyed most of the BMPs, which were in place, and Boeing has updated several of the BMPs at select outfalls since that time. Prior to the Topanga Fire, the BMPs placement was focused around the outfalls. Subsequent, to the fire, Boeing has hydromulched much of the burned out area, and has implemented BMPs upstream of the outfall locations. The effluent limitations and the threat of enforcement thereof have provided the incentive for Boeing to complete these upgrades and to continue to look at other technologies to implement at other outfalls.

The TMDL related effluent limitations were submitted for public comment on January 24, 2006. On March 9, 2006, the Board considered the noticed NPDES permit update and adopted Order R4-2006-0036. The most recent Order R4-2006-0036

[26] Boeing makes much of staff's "recommendation" to adopt a Cease and Desist Order with a Time Schedule Order for compliance, as if the act by staff of agendizing options for the Regional Board's consideration should somehow serve as a basis to impeach the credibility of the Board's decision not to adopt any or all of those options. That is not tenable. First, staff presents many items for Board consideration, and often staff knows the items will not be approved. Agendizing them however, is the only mechanism available for the Regional Board to discuss the matter. Second, the policy-setting and decision-making authority is vested in the Regional Board itself--not the Board's staff. Even assuming staff's agenda items were proposals that accurately did reflect staff's opinion of what the results should have been, that is still not helpful to determining either the Regional Board's opinion or the appropriateness of the Board's decision, and it certainly shouldn't be used as a basis before the State Board to prejudice the decisions the Regional Board actually made.

[27] SWRCB/OCC Files A-1653 and A1737: Box 8, Folder 4, Item 8, Item 1, January 19, 2006 Transcript, Pages 82-83.

includes only six effluent limitations that are more stringent that the effluent limitations that were included in Order 98-051 for Outfalls 003 through 007. Two of the six limitations are limitations for new constituents, TCDD and perchlorate, which show reasonable potential to exceed the WQBELs.

5. **Error Cannot be Demonstrated from the Mere Fact that the Regional Board Considered Staff's Recommendations, Used its Discretion, and Decided Against Providing Boeing with a Compliance Schedule and Interim Effluent Concentrations**

The transcript from the January 19, 2006 Board hearing clearly represents the consideration that was given to the information available during the Board Hearing. The Board listened to testimony for more than two hours and questioned Board staff, the Discharger and other interested parties extensively regarding the information presented.

Staff's conclusion was that the Discharger may not be able to immediately comply with some of the limitations utilizing the BMPs in place. The Regional Board had a number of options which have been outlined in the response above. The Executive Officer during the Board Hearing made it clear that among the options available to the Regional Board was the adoption of the revised tentative CDO which had been developed by Board staff. The revised-tentative CDO would provide the Discharger with interim effluent concentrations and a time schedule to meet the final effluent limitations.

After considering all of the testimony, including the data available, including the Discharger's requests for interim effluent concentrations, and estimates of how much time would be required for the discharge to come into full compliance with the permit, the Regional Board used its discretion and did not provide a compliance schedule or interim effluent concentrations to Boeing.

6. **The Regional Board Considered all Scientific Evidence Available.**

The public comment period for Order R4-2004-0111 provided an extended period of time for the Discharger and other interested parties to provide comment and/or other information for Board consideration. A draft for the permit dated May 1, 2002 was commented on by the Discharger in an email dated August 1, 2002 from William McIlvaine of the Boeing Company. After a number of meetings with the Discharger, site inspections, discussions with representatives from DTSC, the agency with oversight responsibilities for the RCRA assessment and cleanup at the site, and with other interested parties, a tentative permit was submitted for public comment on September 5, 2003.

A number of comments were submitted with reference to the tentative permit. Subsequent, discussions ensued with the Discharger as well as with other interested parties. The outstanding issues that were discussed at the May 6, 2004 Board Hearing included:

- The assertion by the Discharger that storm water only discharges should be covered by the General Storm Water Permit
- The assertion by the Discharger that numeric effluent limitations based on the California Toxics Rule for storm water only discharges is inappropriate
- The assertion by the Discharger that the use of Best Professional Judgement when determining reasonable potential is inappropriate.
- The assertion by the Discharger that internal compliance points will hinder RCRA investigation and cleanup activities.

All issues raised were responded to by staff, those comments and the responses were considered along with the testimony presented during the Board Hearing.

Along with these issues the Regional Board also considered the fact that the Discharger repeatedly asserted it would be unable to meet the effluent limitations. However, the primary BMPs in place were hay bales and straw waddles at that time. These BMPs were in place primarily around the discharge outfalls.

7. **The Regional Board Considered All Data Available.**

During the May 6, 2004 and July 1, 2004 Board Hearings, no data was presented that showed evidence that surface water discharges from SSFL are consistent with those from other nearby open space areas. However, a considerable amount of data was presented from Regional Board staff, DTSC staff, the Discharger and from other interested parties documenting contamination present on the site. The presentation by Mr. Jim Pappas of DTSC at the July 1, 2004 Board Hearing[28] outlined the areas of contamination identified by DTSC. He specified that 50 waste management units have been identified. He also talked about solvent contamination in deep bedrock and in groundwater. He briefly discussed investigations for contaminants in springs and seeps located offsite and for perchlorate in the drainages. Corrective action and interim measures that have been completed under DTSC direction were also reviewed. The specific interim measures outlined included:

- At the Former Sodium Disposal Site the removal of 14,000 cubic yards of soil contaminated with polychorinated biphenyls, dioxin, and mercury.
- At Happy Valley 3,000 yards of chemically impacted soil was removed along with ordinance.
- In Upper Happy Valley (Building 359 Area) 8,500 yards of soil contaminated with perchlorate was removed and is being biotreated onsite.
- Removal of 1,700 cubic yards of soil contaminated with mercury.

Mr. Pappas concluded his remarks by saying "We used the NPDES information to – we used it in some of these interim measures. We used the information to zero in on the areas that need to be cleaned up." The monitoring data and the effluent limitations

[28] Administrative Record SWRCB/OCC File A-1653 and File A-1637, Box 4, Folder 2, Item 1, Page 17, Beginning on Line 20

have provided the incentive and required information to complete several cleanups at the SSFL.

The testimony of Mr. Pappas and Mr. Gerard Abrams of DTSC and the list of chemicals of concern provided by DTSC[29] during the comment period for the permit, provided the basis for including numeric effluent limitations for a number of constituents included in the permit.

Scientific evidence that surface water discharges from SSFL are generally consistent with those from other nearby open space areas was not presented during the comment period or during the Board Hearing.

During the January 19, 2006 Hearing, Susan Paulsen presented data on behalf of Boeing[30]. Samples described were collected from two sites in Agoura, from Chatsworth, and an open area in Burbank. The samples were collected during the first storm after the Topanga Fire, which occurred September 28, 2005. Ms. Paulsen presented graphics that alleged that the concentrations of copper measured off-site were comparable to those measured on-site. She also showed a similar figure for the dioxin concentrations. The Board members considered the information but subsequently commented that before the Topanga Fire, prior to October 2005, the Discharger had reported violations for these constituents.[31]

In 1999, during the tenure of Order 98-051, which included numeric effluent limitations for storm water only discharges from Outfall 005, the Discharger reported a violation of the copper effluent limitations of 11 □g/L with a detected concentration of 14 □g/L. A number of violations of the constituent have been reported since Order R4-2004-0111 became effective. Therefore, it is impossible to conclude that elevated concentrations present are due solely to the fire, and that contaminant transport from onsite operations has not contributed to an exceedance of any water quality standard.

The SSFL is not a typical industrial facility. Boeing operations at the site since 1950 include research, development, assembly disassembly and testing of rocket engines, and chemical lasers. The DOE conducted past operations in research and development of energy related programs, and seismic testing experiments. Current DOE activities onsite are related to facility closure, environmental remediation, and restoration.

Past operations at the facility have resulted in contamination of the surface soils, sediment and groundwater. As is stated in the Fact Sheet, the facility is currently undergoing a RCRA assessment and cleanup with DTSC oversight. That RCRA assessment has resulted in the identification of a number of chemicals of concern in various areas throughout the site. Storm water runoff contacting contaminated areas provide the mechanism of transport of those contaminants offsite. Reviews by EPA and

[29] Administrative Record SWRCB/OCC File A-1653 and File A-1637, Box 3, Folder 7, Binder 1, Page 8.1-579.
[30] Administrative Record SWRCB/OCC Files A-1653 & A-1737, Box 8, Folder 4, Item 1, Page 127.
[31] Administrative Record SWRCB/OCC Files A-1653 & A-1737, Folder 4 Box 8, Item 1, Page 234.

data collected during routine monitoring associated with the NPDES permit has provided proof that these contaminants are mobilized by the storm water and in many instances are transported offsite. The data collected during the tenure of Order 98-051 and data collected since the adoption of R4-2004-0111 continued to have elevated concentrations of a number of constituents identified as chemicals of concern.

8. **The Permit is Consistent with Federal and State Law and Policy**

The permit as adopted provides numeric effluent limitations that are consistent with federal and state law. As stated in the response to Item I above, The Clean Water Act requires all point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of the discharge of pollutants is established through NPDES permits that contain effluent limitations and standards. The Clean Water Act establishes two principal bases for effluent limitations. First, dischargers are required to meet technology-based effluent limitations that reflect the best controls available considering costs and economic impact. These technology-based requirements only establish minimum levels of controls appropriate to the specific type of discharger. Second, the CWA also requires that dischargers meet "any more stringent effluent limitations, including those necessary to meet water quality standards...." In other words, dischargers are required to meet WQBELs that are developed to protect applicable designated uses of the receiving water. The limitations included in the permits are based on criteria included in the Los Angeles Region Basin Plan, the CTR and on other state guidance.

A. **Actions for Which Boeing Seeks Review**

i. **The Regional Board Operated Within its Legal Authority When Issuing Waste Discharge Requirements Order No. R4-2004-0111 on July 1, 2004**

The CWA requires that all point source dischargers control the amount of toxic pollutants that are discharged into waters of the United States. 40 CFR Section 122.1 provides the purpose and scope of the National Pollutant Discharge Elimination System Program. Subdivision (b)(1) states that the NPDES program requires permits for the discharge of "pollutants" from any "point source" into water of the United States". Clean Water Act section 402(p) authorizes NPDES permits for storm water discharges associated with industrial activity, and federal regulations require such permits for a facility such as SSFL. (See 40 CFR § 122.26.)

The USEPA's regulations[32] require the Regional Board to incorporate WQBEL for constituents that have a reasonable potential to cause, or contribute to an excursion above applicable water quality objectives/criteria. For priority toxic pollutants, the Regional Board used the discharger's monitoring data and followed the procedures outlined in the State Water

[32] 40 C.F.R. § 122.44(d)(1).

Resources Control Board's (SIP) to conduct a (RPA),[33] to determine if the SSFL discharge had reasonable potential to cause, or contribute to an excursion above applicable water quality objectives/criteria. Nothing prohibits the Regional Board from using the statistical methodology set forth in the SIP (as a valid scientific approach) to determine reasonable potential. (See section iv., infra.)

USEPA promulgated the CTR, which establishes water quality standards for certain priority toxic pollutants, in California's inland surface waters, including pollutants in SSFL's discharges.[34] CTR criteria serve as state water quality standards for the State's applicable aquatic life (WARM or EST) or human health (REC-1) beneficial uses[35] designated in the Basin Plan. The CTR applies to all inland surface waters in the State,[36] except for ocean waters covered by the Ocean Plan. Further, the preamble to the final CTR recognizes that "[i]f a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criteria, the permitting authority must develop permit limitations as necessary to meet water quality standards."[37] This RPA language parallels that found in 40 C.F.R. section 122.44(d)(1).

ii. The Regional Board Operated Within Its Legal Authority When Issuing Waste Discharge Requirements Order No. R4-2006-0008 on January 19, 2006

As stated above, the USEPA's regulations require the Regional Board to incorporate WQBELs for constituents that have a reasonable potential to cause, or contribute to an excursion above applicable water quality objectives/criteria. The adoption of Order No. R4-2006-0008 was required since data collected from August 20, 2004 to May 5, 2005 yielded RP for a host of constituents that were not included in Order R4-2004-0111 with effluent limitations.

iii. The Regional Board Operated Within Its Discretion When It Did Not Adopt Revised-tentative Cease and Desist Order No. R4-2006-0YYY on January 19, 2006.

The compliance history and the data collected from August 20, 2004 through May 5, 2005 provided an adequate basis for the Regional Board to deny the Discharger's request for interim effluent limitations for several constituents.

The Discharger from the effective date of the 2004 Permit, August 20, 2004 to May 5, 2005, reported forty-four violations of effluent limitations. The

[33] See p. 64 of the TSD, Chapter 3, paragraph 1.
[34] 40 C.F.R. § 131.38; 65 Fed.Reg. 31682 et seq. (May 18, 2000).
[35] 40 C.F.R. § 131.38(d)(1).
[36] See 40 C.F.R. § 131.38(a)(1).
[37] 65 Fed.Reg 31702; see also 40 C.F.R. § 122.44(d)(1),(3).

Boeing Company on July 15, 2005 submitted a request to revise the Waste Discharge Requirements for the Boeing Company, SSFL. The letter also included a request that the revision include interim effluent concentrations and a time schedule. On October 5, 2005, Mr. Dan Hirsch, Holly Huff, Sheldon Plotkin, Christina Walsh and Elizabeth Crawford submitted to Susan Cloke, Chair of the Los Angeles Regional Board, a letter outlining constituents detected with concentrations that exceeded criteria in the 2004 Permit. On November 15, 2005 a letter was submitted by the Jonathan S. Bishop, Executive Officer of the LARWQCB, responding to the Request for revision of the waste discharge requirements[38]. The letter stipulated that Regional Board staff would complete a RPA, evaluating all of the new data submitted since the adoption of the 2004 Permit. After completing a preliminary evaluation, the Regional Board on November 30, 2005 issued a Cleanup and Abatement Order No. R4-2005-0077 for the Boeing Company, Santa Susana Field Laboratory, requesting a plan for the Discharger to come into full compliance with the current Order (2004 Permit).

After completing the revised RPA a tentative amendment to the 2004 Permit (issued for public comment on November 30, 2005) and a tentative CDO (submitted for public comment on December 19, 2005) which included a time scheduled and interim contaminant concentrations for several constituents were developed. Comments were received from the Discharger and other interested parties. Regional Board staff responded to the comments and issued revised-tentative versions of both the amendment and the CDO.

On January 19, 2006, the Regional Board considered the revised-tentative amendment and CDO. The permit included new effluent limitations for chemicals of concern with reasonable potential at Outfalls 001 through 018. The revised tentative CDO included a time schedule that culminated on August 31, 2006, and interim contaminant concentrations for a subset of the constituents demonstrating RP. During the January 19, 2006, the Discharger asserted that it would be unable to immediately comply with the final effluent limitations and may not be able to immediately comply with the interim effluent concentrations included in the tentative CDO.[39] The Discharger supported these assertions by suggesting that (1) the data set was too small to make reliable predictions and (2) the site had changed considerably because of the Topanga Fire, which occurred in September 2005, burned much of the site. The Discharger therefore summarized that it was not possible to predict specifically what contaminant concentrations would be present in discharges from the site. The Discharger also put forth that the discharge is primarily storm water and it is impossible to control the discharge.

[38] Admin. Record SWRCB/OCC Files A-1653 and A-1737, Box 6, Folder 7, Item 7
[39] Admin Record, SWRCB/OCC FILE A-1653 AND A-1763, Box 8, Folder 4, Item 1, January 19, 2006 Transcript of Board Hearing, Page251, Line 16 through Page 253 Line 8.

It is true that changes in routine operations at the site have changed the nature of the discharge such that it is primarily storm water runoff. The three package type sewage treatment plants are not currently operational. Sewage treatment plant 1 (STP-1) (Outfall 015) and STP-3 (Outfall 017) basins are used as collection points for domestic sewage. Wastewater is collected in the basins and every few days pump trucks are used to pump out the collected wastewater and take it offsite to one of the Los Angeles County Sanitation District Facilities (Saugus or Carson) for treatment. However, during emergencies the Discharger has requested that provisions be included in the permit to allow discharges from the sewage treatment plants. One such discharge occurred in January 2005, and samples collected demonstrated RP for a host of constituents. The groundwater treatment systems are not currently online. Prior to the fire (September, 2004), only discharges from pump test and purge and sampling operations were discharged from the treatment systems. The Alpha Test Stand (Outfall 012) is the only rocket engine test stand currently in use. Data collected during engine test operations yielded RP for a number of chemicals of concern. Effluent limitations for constituents demonstrating RP at the sewage treatment plants and the rocket engine test stands were included in the Order adopted on January 19, 2005.

After considerable discussion, the Regional Board adopted the amendment (Order R4-2006-0008). The Board members reiterated the fact that the Discharger has over the years violated the requirements of the NPDES permits (1998 and 2004 Permits). Further, some Board members indicated that they did not believe additional time would help with the Dischargers efforts to comply with the permit. This coupled with the harm that has been done to the community demonstrated by testimony given during the hearing and in the comments received during the comment period provided the basis for the Board to deny the request for interim effluent concentrations and a time schedule.

iv. The Regional Board Operated Within Its Legal Authority When Issuing Waste Discharge Requirements Order No. R4-2006-0038 on March 9, 2006, Based on Total Maximum Daily Load ("TMDL") Waste Load Allocations ("WLA") for Discharges From SSFL.

A November 22, 2002 Memorandum was issued from Robert H. Wayland, III and James A. Hanlon of U.S. EPA, which outlined a strategy for *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs.*[40] The memo stipulates the following with regard to WLAs and NPDES permits:

- "NPDES permit conditions must be consistent with the assumptions and requirement of available WLAs."

[40] Admin Record SWRCB/OCC Files A-1653 and A-1737, Box 9, Folder 1, Item 1

- "WQBELS for NPDES-regulated storm water discharges that implement WLAs in TMDLs may be expressed in the form of Best Management Practices under specified circumstances. ... If BMPs alone adequately implement the WLAs, then additional controls are not necessary." (Emphasis as in original.)

- "When a non-numeric water quality-based effluent limit is imposed, the permit's administrative record, including the Fact Sheet when one is required, needs to support that the BMPs are expected to be sufficient to implement the WLA in the TMDL."

This guidance was used when implementing the TMDLs.

Representatives from Boeing have admitted that the BMPs in place are not adequate to meet the stipulated WLAs for metals and nutrients implemented in Order R4-2006-0036. Accordingly, numeric effluent limitations are appropriate, according to the memorandum.

B. The Regional Board's Actions Were Proper and Mandated by the Clean Water Act, and the California Toxics Rule

i. The 2004 and 2006 Permit's Inclusion of Numeric Effluent limitations for Storm Water is Supported by the Record.

Page 9 of the Fact Sheet[41] in Order R4-2004-0111 states "In 1989, EPA conducted an investigation and submitted a report on SSFL environmental issues. The report specified under the recommended and planned actions that the Regional Board was to use the Clean Water Act to ensure run-off from the northwest side of Area IV was not contaminated. In response to the request, Rocketdyne (previous owner, the current owner is the Boeing Company) developed a surface water monitoring program for the northwest slope area that was subsequently approved by EPA and implemented." That monitoring resulted in the development of effluent limitations for these areas.

Storm water only discharges from Outfalls 003 through 007 had numeric effluent limitations (both daily maximum and monthly average) in Order 98-051. As is outlined on pages 9-12 of the Fact Sheet (Order R4-2006-0036)[42], each of these discharge locations was selected because of its proximity to the locations where historical operations had resulted in residual contamination. The contamination may be transported offsite by storm water runoff from the respective areas. The fact that contamination is present on the site and that discharges had concentrations of those contaminants in

[41] Admin Record SWRCB/OCC Files A-1653 and A-1737, Box 6, Folder 1, Item 1, Fact Sheet.
[42] Administrative Record SWRCB/OCC File A-1653/OCC File A-1737, Box 8, Folder 7, Item 11

excess of WQBELs provided the basis for included numeric effluent limitations for storm water only discharges in Order 98-051.

During review of the data and the completion of the RPA, representatives from Boeing asserted that the numeric effluent limitations were inappropriate for storm water only discharges. Staff's assertion is that the discharges from SSFL are not typical storm water discharges but storm water mixed with contaminants from onsite surface soil contamination. The discharges from Outfalls 003 through 007 during the tenure of the 98-051 Order resulted in a number of violations of the effluent limitations included in the permit. The violations in some instances provided the basis for expedited cleanups (interim measures) of mercury, and dioxins onsite. Hence, the effluent violations were the result of the transport of onsite contaminants offsite.

ii. The Inclusion of Numeric Effluent Limitations for Priority Pollutants in Storm Water Only Discharges Does Not Exceed the Authority of the Regional Board

In adopting the CTR, US EPA stated: "In section 402(p)(3)(A), Congress requires that 'discharges associated with industrial activity shall meet all applicable provisions [section 402] and section [301].' 33 U.S.C. section 1342(p)(3)(A). The Court noted, therefore, that by incorporation industrial storm water discharges need to achieve ' any more stringent limitation, including those necessary to meet water quality standards...' The Court explained that industrial storm water discharges "must comply strictly with State water quality standards" ..." (65 Fed. Reg. 31703 (May 18, 2000), §4. Wet Weather Flows.)

EPA also stated: "The interim permitting approach uses BMPs in the first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standard. In some cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits as necessary and appropriate." (Ibid.)

Historical operations at the SSFL have resulted in contamination of the soil, sediment, and groundwater. This contamination has been confirmed by investigations that are proceeding onsite under RCRA assessments and cleanups that are proceeding under DTSC direction. During a review by EPA in 1989, it was recommended that Regional Board collect data from storm water runoff traversing contaminated areas of the SSFL. That data provided the basis for including numeric effluent limitations for storm water runoff from several locations in Order 98-051. Monitoring since the adoption of that order has resulted in effluent violations for a number of priority pollutants. It has also resulted in elevated concentrations of other chemical concerns. Since Board staff has adequate information to develop more specific conditions,

discretion has been utilized to develop and implement WQBELs for storm water discharges that are transporting contaminants offsite. Those WQBELs were developed using the current federal and state guidance.

iii. The Inclusion of Numeric Effluent Limitations for Priority Pollutants in Storm Water is Not a Violation of the SIP nor Contrary to Federal, and State Law or Regulatory Guidance Including the California Administrative Procedures Act;

The Clean Water Act does not require that storm water discharges be regulated with numeric effluent limitations. The SIP is ordinarily inapplicable to storm water only discharges. However, when adopting the CTR, US EPA stated: the CTR in Item 4 of 40 CFR Part 131 "In section 402(p)(3)(A), Congress requires that 'discharges associated with industrial activity shall meet all applicable provisions [section 402] and section [302].' 33 U.S.C. section 1342(p)(3)(A). The Court noted, therefore, that by incorporation, industrial storm water discharges need to achieve 'any more stringent limitation, including those necessary to meet water quality standards...' The Court explained that industrial storm water discharges 'must comply strictly with State water quality standards...'" (65 Fed. Reg. 31703, §4. Wet Weather Flows.)

The section goes on to conclude that "where adequate information is available to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits as necessary and appropriate." (Ibid.) The CTR, federal law, and regulatory guidance supports the Regional Board's inclusion of numeric effluent limitations for storm water in the permit.

iv. The 2004 and 2006 Permits Utilize "Reasonable Potential Analysis" that is Applicable and Appropriate for All Discharges.

The RPA used to develop the effluent limitations for storm water and for wastewater discharged from the SSFL comes directly from a State of California adopted policy, the State Implementation Policy (SIP). The SIP does include a footnote, which indicates that it is not applicable to storm water only discharges. That footnote is appropriate in that the Clean Water Act does not require storm water discharges to be regulated with numeric effluent limitations. However, after reviewing all of the data available the State or Regional Board may utilize its discretion to include numeric effluent limitations to ensure that the beneficial uses of the receiving water are protected.

The TSD in Box 3-2 on Page 53 outlines a method for determining reasonable potential. The method outlined in Box 3-2 combines knowledge of effluent variability which is estimated by the coefficient of variation with the uncertainty due to a limited number of data points to project an estimated

maximum concentration for the effluent. The maximum concentration is calculated as the upper bound of the expected lognormal distribution of effluent concentrations at a high confidence level. The projected effluent concentration is then compared with appropriate water quality criterion to determine the potential for exceeding that criterion and the need for an effluent limit. When the evaluation projects excursions, a permit limit is required. The TSD on Page 64 in the second sentence of the first paragraph reads, "The statistical approach shown in Box 3-2 or an analogous approach developed by a regulatory authority can be used to determine the reasonable potential." Staff utilized this statement as the basis for utilizing the method outlined in the SIP to calculate the RP for priority pollutants in storm water only discharges.

v. The Regional Board Appropriately Exercised Its Discretion When Considering the Evidence Presented During the Hearing.

The Regional Board typically provides Dischargers with twenty minutes to present issues during the Board Hearing, and members of the public are routinely provided three minutes. After Board staff, the Discharger, and other interested parties have had an opportunity to speak, Regional Board members will often ask question to clarify matters.

The representatives from Boeing at the January 19, 2006 Board Hearing were allotted forty-five minutes to make their presentation. The forty-five minutes are well in excess of the twenty minutes routinely allotted for discharger comments. Setting aside the many other ways in which Boeing participated in the process (e.g., written submittals, meetings with staff, etc.) nothing in Boeing's petition or the administrative record demonstrates that Boeing was deprived a fair hearing as a result of its 45 minute allocation.

vi. The Regional Board Appropriately Exercised Its Discretion in Not Adopting Interim Effluent Concentrations in a Time Schedule Order for the 2006 Permits.

See Regional Board staff response A.iii. above.

vii. The Regional Board Provided Boeing Adequate Procedural Due Process and a Fair Hearing.

Regional Board staff submitted to the Discharger a tentative Order and provided ample time for comments on the tentative versions for each of the permits. Board staff responded in writing to the comments and provided numerous opportunities [??] for Boeing representatives to come into the office to meet with staff and or meet telephonically to discuss remaining issues prior to each of the Board Hearings.

During the Board Hearings, Boeing staff was provided time to make a presentation regarding outstanding issues with the permits. The presentation was followed by a period of questions and answers from the Board members to provide clarification on issues raised during the development of the permit. The Board members subsequently deliberated among themselves. Finally, a vote was called and Order R4-2004-0111 and Order R4-2006-0036 were adopted unanimously. Order R4-2006-0008 was adopted with a vote of five yeas and one nay.

C. Summary of Argument

i. The Regional Board Operated Well Within Its Legal Authority by Imposing Numeric Effluent Limitations on Storm Water Only Discharges at Boeing's SSFL facility.

The Clean Water Act provides the authority for the Regional Board to establish effluent limitations for all point sources. The data collected from storm water only discharges that have traversed areas of contamination onsite provided site specific data that demonstrated reasonable potential for a number of priority pollutants and other chemicals of concern. These chemicals also have a history of use onsite, and in some cases, evidence documents that the contaminants are present in site soils, sediments, and in groundwater. In adopting the CTR, EPA indicated that an interim BMP approach be used in the first-round storm water permits, and expanded or better tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standard. The guidance provides the option of developing more specific conditions or limitations to meet water quality standards and incorporating them into the storm water permits when adequate information is available.

ii. The Regional Board Concluded That the BMPs Implemented Onsite Were Inadequate to Address the Contaminants in Mixed Process and Storm Water Discharges and In Storm Water Only Discharges From the Site.

During the January 19, 2006 Board Hearing, Ms. Paulsen stated that the Boeing site was able to meet WQBELs ninety-eight percent of the time.[43] Conversely, the discharges from the facility are out of compliance with the WQBELs two percent of the time.

Boeing, using primarily the most fundamental BMPs available, has been able to meet the WQBELs ninety-eight percent of the time. The BMPs of choice were primarily hay bales, straw waddles, silt fencing, and sporadic use of tarping in some areas. None of the BMPs routinely used in the past are

[43] Admin. Record SWRCB/OCC Files A-1653 and A-1737, Box 8, Folder 3, Item 10, SSFL Presentation, Slide 27.

designed to treat metals, or organics. They are primarily used to control the transport of sediment.

After the adoption of Order R4-2004-0111 Boeing updated a number of the BMPs but they were destroyed in the Topanga Fire. Recently, Boeing has implemented more sophisticated BMPs including underdrain systems with filtration, filter bags with vermiculite and activated carbon and at one location a settling basin (in the vicinity of Outfall 10).

iii. The Regional Board Utilized the Administrative Procedures Manual to Determine the Effective Date of the Permit and of the Effluent Limitations Contained Therein.

The State Water Resources Board Administrative Procedures Manual Water Quality Chapter on NPDES permits describes the instances when the final NPDES permit becomes effective on the date of adoption. If those criteria are not satisfied, the final permit becomes effective fifty days after adoption.[44]

Since each of the permits (Order R4-2004-0111, R4-2006-0008, and R4-2006-0036) were adopted after significant public comment; each of the permits became effective fifty days after the date of adoption.

iv. The Regional Board Used its Discretion in Determining Not to Provide the Discharger With Interim Effluent Concentrations and a Time Schedule During the January 19, 2006 Hearing to Adopt Order R4-2006-0008.

On January 19, 2006, the Regional Board considered the revised-tentative amendment and CDO. The permit included new effluent limitations for chemicals of concern with reasonable potential at Outfalls 001 through 018. The revised tentative CDO included a time schedule, which culminated on August 31, 2006, and interim contaminant concentrations for a subset of the all constituents demonstrating RP. During the January 19, 2006, the Discharger asserted that it would be unable to immediately comply with the final effluent limitations and may not be able to immediately comply with the interim effluent concentrations included in the tentative CDO. These assertions were based on the fact that the Topanga Fire, which occurred in September 2005, burned much of the site and therefore it could not be predicted specifically what contaminant concentrations would be present in discharges from the site. Boeing further asserted that since the discharge is primarily storm water, they are unable to control the discharge.

After considerable discussion, the Regional Board adopted the amendment (Order R4-20006-0008). The Board members reiterated the fact that the Discharger has over the years violated the requirements of the NPDES

[44] Admin. Record SWRCB/OCC Files A-1653 and A-1737, Box 1, Folder 1, Item 1, Pages 19-20.

permits (1998 and 2004 Permits). Further, the Board members indicated that in many cases it appeared that the Discharger was only exerting the minimum amount of effort to comply with the stipulated requirements. This coupled with the harm that has been done to the community, provided the basis for the Board to deny the request for interim effluent concentrations and a time schedule.

v. The Regional Board Utilized the Tools Available to Provide Effluent Limitations For Storm Water Traversing a Contaminated Site, which are Protective of the Beneficial Uses of the Receiving Waters.

The tools available for determining the WQBELs that will protect the receiving water included the Clean Water Act, the National Toxics Rule, the California Toxics Rule, and the Los Angeles Region Basin Plan. The calculation of the RP was based on the SIP and the TSD. As described above the TSD was originally the selected methodology for calculating the effluent limitations for storm water only discharges. However, a statement in the TSD indicated that any other state or regionally approved protocol could be used to determine RP. Therefore, staff utilized the SIP methodology to determine RP and calculate the effluent limitations for storm water only discharges.

vi. The Regional Board After Considering the Effects of the Topanga Fire on the Site Utilized Its Discretion to Require Boeing to Comply With The Final Effluent Limitations Included in Order R4-2006-0008 on the Effective Date of the Permit.

The Regional Board has discretion to consider all data, compliance history, and other information prior to deciding if the Discharger will be granted a compliance schedule. The data and the compliance history indicated that the Discharger may not be able to achieve immediate compliance. The Regional Board utilized its discretion to say that Boeing must do what is required to meet the final effluent limitations included in Order R4-2006-0008, as soon as possible.

vii. The Regional Board During the March 9, 2006 Board Hearing Provided a Compliance Schedule and an Interim Effluent Concentration for Cadmium, the Only Constituent Added That Demonstrated RP.

The amendment to update Order R4-2006-0008 which incorporated TMDL based effluent limitations as specified in the Nutrients and Metals TMDLs for the Los Angeles River was considered during the March 9, 2006 Board Hearing. The data set considered to develop the TMDLs included all the data for the affected constituents collected from August 21, 2004 through January 3, 2006. The data considered indicated that only one constituent, cadmium, had effluent concentrations in excess of the TMDL related effluent limit. The cadmium was detected at Outfall 015, which is at one of the sewage treatment plants. Therefore, Board staff recommended the Board incorporate

an interim limit for cadmium in the Order. The requested interim concentration was adopted by the Board.

The sewage treatment plants are characterized by the Discharger as not operational. They were also characterized as not operating when the 2004 Permit was adopted. However, during a storm event in January 2005, the Discharger was unable to pump out the reservoirs that are used as collection basins. The basins overfilled and discharges from the plants occurred. That discharge violated several effluent limitations that were included in Order R4-2004-0111 and provided the data which established RP for a number of constituents that have been included in Order R4-2006-0008. That data was used as the basis for providing the interim effluent concentration for cadmium Order R4-2006-0036.

A number of other constituents were also added to the permit based on the TMDLs. However, the data collected did not provide evidence that the Discharger would not be able to immediately comply with those limitations. Therefore, no interim effluent concentrations with a compliance schedule were proposed for those constituents.

viii. Regional Board Staff Believed Prior to the Adoption of the 2004 Permit that the Discharger Would Not Be Able to Immediately Comply With the Effluent Limitations Included in the Order.

The tentative permit (prior to release for public comment) that Boeing commented on in May 2002 included a compliance schedule and interim limits for copper, lead and mercury at Outfalls 001 and 002; and for cadmium, copper, mercury, and TCDD at Outfalls 003 through 007. Boeing elected to refuse to accept the Regional Board staff's proposed compliance schedule and interim effluent concentrations to the Regional Board for consideration. The tentative permit was subsequently revised to remove the interim limitations and compliance schedules. The discharges from the facility after the effective date of the 2004 Permit resulted in a number of effluent violations. The Discharger during much of that time continued to use hay bales and straw waddles as the primary BMPs utilized onsite. These BMPs are designed to only settle out particulates, not to remove metals or organics, which were some of the constituents causing the violations.

In July 15, 2005, Boeing submitted a request to the Regional Board to reopen the permit and to include interim effluent concentrations for a number of constituents.

ix. Regional Board Considered the Effects of the Topanga Fire on the Site as Well as the Effluent Violations That Occurred Since 1998.

After completing the revised RPA, a tentative amendment to the 2004 Permit (issued for public comment on November 30, 2005) and a tentative CDO

(submitted for public comment on December 19, 2005), which included a time scheduled and interim contaminant concentrations for several constituents, were developed. Comments were received from the Discharger and other interested parties. Regional Board staff responded to the comments and issued revised-tentative versions of both the amendment and the CDO.

At the January 19, 2006 hearing, the Regional Board considered the revised-tentative amendment and CDO. The permit included new effluent limitations for chemicals of concern with reasonable potential at Outfalls 001 through 018. The revised tentative CDO included a time schedule, which culminated on August 31, 2006, and interim contaminant concentrations for a subset of the all constituents demonstrating RP. During the January 19, 2006, the Discharger asserted that it would be unable to immediately comply with the final effluent limitations and may not be able to immediately comply with the interim effluent concentrations included in the tentative CDO which were based upon pre-fire data. These assertions were based on the fact that the Topanga Fire, which occurred in September 2005, burned much of the site, and therefore it could not predict specifically what contaminant concentrations would be present in discharges from the site. The Discharger further asserted that since the discharge consists primarily of storm water, it would be unable to control the discharge.

After considerable discussion, the Regional Board adopted the amendment (Order R4-2006-0008). The Board members reiterated the fact that the Discharger was a repeat offender, who over the years violated the requirements of the NPDES permits (1998 and 2004 Permits). That, coupled with the perceived harm that has been done to the community, provided the basis for the Board to deny the request for interim effluent concentrations and a time schedule.

x. The Regional Board is Not Advocating That Boeing Collect and Treat All Storm Water Traversing the Site. The Regional Board Recognizes That There are a Number of BMP Options Available to Boeing that Have Not Been Considered.

Prior to the adoption of the 2004 Permit, Boeing largely utilized hay bales and straw waddles as the BMPs of choice. In a few areas where surface soil contamination contributed to the contaminant concentrations that were present in the storm water runoff, the Discharger tarped the area and utilized silt fencing to direct runoff around the areas of contamination. These BMPs, in all cases, were positioned around the discharge point.

After the adoption of the 2004 Permit the Discharger implemented upgraded BMPs, which were destroyed during the Topanga Fire. Since that time the Discharger has implemented additional upgraded BMPs that represent more sophisticated technologies. However, this comes after the Discharger has had numeric effluent limitations for storm water only discharges in excess of

six years. Throughout that time, discharges from the facility of both storm water and wastewater have resulted in violations of effluent limitations.

The Discharger implies that if the selected BMPs do not provide sufficient treatment to bring the discharge into compliance, the next preferred option is full containment. Staff suggest that a host of unexplored options exist that are more technologically advanced than the hay bales and straw waddles routinely used, which can be implemented before full containment and treatment are determined to be necessary.

xi. Third Party Lawsuits are the Result of the Discharger's Failure to Comply with the Effluent Limitations Included in the NPDES Permit.

The Discharger is being sued by a community activist group for violations of the NPDES permit. This lawsuit is not the result of Boeing having a NPDES permit, but rather the result of discharge violations of the permit.

xii. The Regional Board's Decisions, as a Matter of Law and Policy, Were Appropriate and Proper, and Well Within Regulatory Discretion.

See Response to Item II.8.

xiii. The Regional Board's Decision to Impose Numeric Limitations on Storm Water Discharges was Appropriate to Comply with Antibacksliding Regulations.

Order 98-051, which preceded Order R4-2004-0111, included numeric effluent limitations for storm water discharges. The inclusion of numeric effluent limitations in the permit for SSFL were the result of monitoring requested by EPA after a review of historical site activities and information documenting the presence of contaminants in surface soils, sediment, and groundwater.

To remove numeric limitations for constituents that show reasonable potential would constitute backsliding, in violation of Clean Water Act section 402(o).

xiv. The Regional Board's Decision to Impose Numeric Limitations on Storm Water Discharges is Supported by the Record.

Page 9 of the Fact Sheet[45] for Order R4-2004-0111 states, "In 1989, EPA conducted an investigation and submitted a report on SSFL environmental issues. The report specified under the recommended and planned actions that the Regional Board was to use the Clean Water Act to ensure run-off from the northwest side of Area IV was not contaminated. In response to the request, Rocketdyne developed a surface water monitoring program for the

[45] SWRCB/OCC Files A-1653 and A-1737, Folder 1, Box 6, Item 1.

northwest slope area that was subsequently approved by EPA and implemented." That monitoring program resulted in the development of numeric effluent limitations for these areas. Effluent data collected at these locations continue to indicate the presence of elevated contaminant concentrations.

Notably, USEPA was also provided with copies of the various tentative NPDES permits and the opportunity to make comments. If Regional Board staff had overstepped their authority, USEPA would have sent a letter expressing such concern. However, US EPA did not disapprove of any of the NPDES permit provisions.

xv. The Regional Board's Decision to Impose Numeric Limitations on Storm Water Discharges Complies with the State and Federal Regulations.

See Response to Item II.B.iii.

xvi. The Decision of the State Board and the Regional Board to Convene Task Forces to Evaluate Storm Water Discharges Does Not Preclude the Regional Board from Adopting Permits Including Numeric Effluent Limitations for Storm Water.

The task force will provide recommendations and information regarding the design storm and the most appropriate method to regulate storm water discharges from typical industrial sites. Any policy derived from those recommendations, however could not preclude the Regional Board from adopting WQBELs that are protective of beneficial uses. Assuming the State Board adopts a policy that is inconsistent with the Regional Board's decision to apply numeric effluent limitations to facilities such as Boeing, the permit could be reopened and modified at that time. At present however, no such policy exists, and all legal authorities support the Regional Board's decision in this regard.

Nevertheless, the SSFL is not a typical industrial site. The site has extensive contamination from radiological constituents, metals, and dioxins in soil; along with volatile organic compounds in groundwater. The Regional Board respectfully suggests that any statewide policy be carefully crafted to ensure the Regional Board's ability to protect aquatic life and human health (and other beneficial uses), from unconventional and unique dischargers such as the SSFL.

D. Boeing's Assertions on the Manner By Which Boeing Is Aggrieved

As an initial matter, the Regional Board strongly disagrees with Boeing's characterization of the real-world impacts of the Order. Boeing portrays the Regional Board's order as unreasonable for imposing numeric effluent limitations

for storm water.[46] In fact, the previous Order (No. 98-051) included numeric effluent limitations, both daily maximum and monthly average limitations for storm water only discharges, and Boeing did not challenge that order.

1. **Boeing Contends That the 2004 and 2006 Permits Have Resulted in Substantially Increased Compliance Costs, Without any Discernable Benefits to the Receiving Water.**

   The last fine levied against the discharger was for violations of the Order 98-051. A number of notices of violation have been issued since the adoption of the 2004 Permit, but Boeing has not realized any increase in the compliance costs.

   However, there have been discernable benefits to the receiving water quality. Routine discharges from the sewage treatment plants have essentially been terminated. Discharges from the jet engine test stands have been terminated temporarily. Boeing has initiated the process of securing the required permits to put in the structures required to collect the discharges from the tests and ship them offsite for disposal. Discharges from both of these areas contributed contaminant concentrations in excess of WQBELs to tributaries to Bell Creek. Taking these discharges out of the receiving water will improve the quality of the receiving water. Boeing admitted that it is undertaking additional preventive measures as a result of the effluent limitations in question.

2. **Boeing Contends That the Permit Included Additional, Unjustified Regulatory Requirements.**

   The regulatory requirements included in the permit are comparable and consistent with those for similar NPDES discharges. Effluent limitations included in the Boeing SSFL permit are based on CTR criteria. Discharges to all waters of the United States are required to meet those limitations. If USEPA had intended to exclude the CTR's applicability to storm water discharges, the CTR would have specified such intent. USEPA has excluded the applicability of certain criteria for certain states in the past, when it promulgated the NTR. However, the CTR does not contain any exclusions for storm water discharges. As discussed above, USEPA's comments in Federal Register when adopting the CTR supports the assertion that when the information is available, numeric WQBELs are appropriate for industrial storm water discharges. Since the data indicates that contaminants present onsite are transported via storm water runoff, the regulatory requirements to control the concentrations of contaminants in the storm water are not unjustified regulatory requirements.

[46] SWRCB/OCC Files A-1653 and A-1737, Box 9, Folder 1, Item 4, The Boeing Company's Petition Order No. R4-2004-0111 and Order No. R4-2006-0008, Waste Discharge Requirements for Santa Susana Field Laboratory, Memorandum of Points and Authorities, Page 6.

3. Imposition of Penalties for Failure to Meet the Permit Limitations That are Beyond Boeing's Reasonable Control.

Boeing was unable to comply with effluent limitations in Order 98-051. Those violations resulted in an Administrative Civil Liability Penalty of $36,000 from the Regional Board. Violations of the same constituents continued after the adoption of the 2004 Permit.

Prior to October 2005, Boeing had utilized hay bales and straw waddles as the primary resources for controlling the transport of contaminant offsite. In some areas tarping with silt fencing was used to cover contaminant areas and divert flow around areas of concern. These are the most fundamental BMPs. They are routinely employed at construction project sites. The hay bales and straw waddles do not treat the dissolved chemical in the discharge, and only slows the flow to allow the large particulates to settle out.

The need to implement expansive containment measures could have potentially significant adverse environmental impacts, in an attempt to fully capture and treat storm water so as to prevent any discharges that will result in permit exceedances. The Discharger assumes that it has only two options: hay bales and straw waddles, or complete containment. There are a number of options for BMPs available other than the most basic technology (straw waddles and hay bales) and full containment. Boeing has only recently begun to utilize other BMP technologies to control the transport of contaminants offsite or to treat the discharge prior to discharge.

The Regional Board is not advocating full containment before other BMPs have been fully explored. The Board does believe that options other than the most basic technologies should be evaluated.

Boeing began to implement more sophisticated BMPs starting in October, 2005 after the Topanga Fire. During a site visit in December, 2005, Regional Board staff inspected BMPs that included carbon filled bags used to filter the discharge, and underdrain systems used to slow the flow and direct it across filtration systems.

E. CONCLUSION

For the reasons stated above, the Regional Board respectfully requests that the State Board deny the Boeing Company's requested relief, including its requests to:

i. Stay and vacate any new numeric effluent limitations added to the 2004 or 2006 Permits applicable to storm water discharges

ii. Stay and vacate any new any new effluent limitations added to the 2004 or 2006 Permits applicable to combined storm water and waste water

discharges or, alternatively, amend the permits to include reasonable compliance schedules for any such numeric effluent limitations.

iii. Apply any relief granted in connection with either the 2004 or 2006 Permits retroactively to the effective dates of the Permits.

III. LEGAL ARGUMENT

A. Legal Framework of NPDES Program Under the Clean Water Act and Porter-Cologne Water Quality Act

1. California Implements the Clean Water Act NPDES Permit Program Under the Porter-Cologne Water Quality Control Act

The Regional Board stipulates to this statement.

2. The Clean Water Act Requires California To Develop Water Quality Standards

California Water Code (CWC) Section 13241 is located under Article 3, Regional Water Quality Control Plans. It requires that Regional Boards consider certain factors at the time that water quality objectives (WQO) are established in water quality control plans, also referred to as Basin Plans. Elements of CWC Section 13241 are considered at the time that a new WQO is adopted into the Basin Plan. That information becomes part of the administrative record prepared for each particular Basin Plan amendment.

With respect to the reference to City of Burbank v. State Water Resources Control Board., 35 Cal.4th 613, 628 (April 4, 2005), the Regional Board disputes Boeing's claim that the permit "exceeds" the requirements of the Clean Water Act. As described above, all of the effluent limitations under review in this proceeding were adopted specifically pursuant to federal statutory and regulatory authority. Notably, while the California Supreme Court issued a ruling in April 2005, the case was remanded to the trial court to decide whether any numeric limitations, as described in the permits, are more stringent than required under federal law. A hearing took place on May 23, 2006, but the judge has not ruled. The language from the Supreme Court decision is as follows:

"...When, however, a regional board is considering whether to make the pollutant restrictions in a wastewater discharge permit *more stringent* than federal law requires, California law allows the board to take into account economic factors, including the wastewater discharger's cost of compliance." The Regional Board believes that when it exercises

discretion authorized in federal law, its decision does not "exceed" but is consistent with, federal law.

3. Under The Clean Water Act, "Effluent Limitations" Can Be Narrative or Numeric, and the Clean Water Act Authorizes the Use of BMPs in Lieu of Numeric Effluent Limitations for Storm Water Discharges

The regulation at 40 CFR 122.44(d)(1) requires that WQBELs be established in NPDES permits when a discharge has the "reasonable potential" to exceed a State narrative or numeric water quality objective. In this particular situation, information in the administrative record clearly demonstrates that discharges from the SSFL have the reasonable potential to cause or contribute to exceedances of the Los Angeles Basin Plan water quality objectives and the CTR criteria. This issue cannot be disputed. Boeing acknowledges that they have had prior exceedances of effluent limitations. (See page 13, line 18, Memorandum of Points and Authorities in support of the Boeing Company's Petition for Review of Waste Discharge Requirements Order Nos. R4-2004-0111 and R4-2006-0008)

The CWA, NPDES regulations, and EPA's national guidance for water quality based permitting clearly envision that effluent limitations should be expressed numerically. (See CWA 301(b)(1)(C) and 502(11); 40 CFR 122.44(d) and 122.2; and *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991, "TSD".) Indeed, the entirety of the TSD, which provides guidance for implementing 40 CFR 122.44(d)(1), focuses on procedures for establishing numerical WQBELs for WET and chemicals derived from both numerical and narrative water quality criteria.

USEPA has expressed previously that a narrative effluent limit may be appropriate, provided that the limit: (1) restricts the quantity, rate, or concentration of the discharged pollutant; (2) will ensure compliance with applicable water quality standards; and (3) is enforceable.

Also, 40 CFR 122.44(k)(3) allows the use of BMPs in lieu of a numerical effluent limit where the calculation of a numerical limit is infeasible. Boeing erroneously interprets this section of the 40 CFR to relate to infeasibility to comply. As demonstrated by permits in California and across the country, it is not infeasible to calculate effluent limitations for metals, nutrients, and other pollutants being disputed by Boeing. We believe that the issued permits are clearly consistent with applicable CWA requirements, the CTR, and EPA's national guidance in the TSD.

Boeing proposes a departure from other water quality based permits by removing the numeric effluent limitations where reasonable potential to exceed a water quality objective has been established. We see nothing

in the permits (once these limitations are removed) that would serve as a WQBEL for those pollutants, or for that matter, an incentive to protect water quality.

4. The Clean Water Act Authorizes Use of BMPs Where Numeric Limitations Are "Infeasible"

40 CFR 122.44(k)(3) allows the use of BMPs in lieu of a numerical effluent limit where the calculation of a numerical limit is infeasible. Boeing erroneously interprets this section of the 40 CFR to mean if it is infeasible to comply. However, as demonstrated by permits in California and across the country, this is not the case for metals, nutrients, and other pollutants being disputed by Boeing. We believe that the issued permits are clearly consistent with applicable CWA requirements, the CTR, and EPA's national guidance in the TSD.

Boeing proposes a departure from other water quality based permits by removing the numeric effluent limitations where reasonable potential to exceed a water quality objective has been established. We see nothing in the permits (once these limitations are removed) that would serve as a WQBEL for those pollutants.

B. The Regional Board Did Not Exceed Its Regulatory Authority By Relying on the State Implementation Policy to Establish Numeric WQBELs For Storm Water Discharges

The Regional Board has the regulatory authority to enforce the Clean Water Act. The CWA requires that all point source discharges control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States.[47]

The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

Therefore, contaminated storm water runoff that is discharged into receiving waters from such conveyances, is considered a point source discharge. The Clean Water Act prohibits the discharges of pollutants from a "point source" into the waters of United States without a permit issued under the terms of the National Pollutant Discharge Elimination System, 33 U.S.C. §§ 1311(a), 1342. In *Natural Res. Def. Council v. Costle*, 568 F.2d 1369, 1379 (D.C. Cir 1977), the court held that U.S. EPA's exemption of storm water discharges from NPDES permitting requirements was unlawful.

[47] 40 C.F.R. § 122.44(d)(1)(i).

The regulation at 40 CFR 122.44(d)(1) requires that WQBELs be established in NPDES permits when a discharge has the "reasonable potential" to exceed a State narrative or numeric water quality objective. In this particular situation, information in the administrative records clearly demonstrates that discharges from the SSFL have the reasonable potential to cause or contribute to exceedances of the Los Angeles Basin Plan water quality objectives and the CTR criteria.

The CWA, NPDES regulations, and EPA's national guidance for water quality based permitting clearly envision that effluent limitations should be expressed numerically. (See CWA 301(b)(1)(C) and 502(11); 40 CFR 122.44(d) and 122.2; and *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991, "TSD".) Indeed, the entirety of the TSD, which provides guidance for implementing 40 CFR 122.44(d)(1), focuses on procedures for establishing numerical WQBELs for WET and chemicals derived from both numerical and narrative water quality criteria.

USEPA has expressed previously that a narrative effluent limit may be appropriate, provided that the limit: (1) restricts the quantity, rate, or concentration of the discharged pollutant; (2) will ensure compliance with applicable water quality standards; and (3) is enforceable.

Also note that 40 CFR 122.44(k)(3) allows the use of BMPs in lieu of a numerical effluent limit where the calculation of a numerical limit is infeasible. Since the SSFL has a robust data set of both storm water only data and wastewater data it is feasible to calculate a numerical limit. Given all of the site-specific conditions at SSFL 40 CFR 122.44(k)(3) does not apply.

C. Adopting Numeric Effluent Limitations for Storm Water Discharges At SSFL Did Not Violate the Administrative Procedure Act (APA)

Boeing's claim of an APA violation is predicated upon its contention that the Regional Board is precluded from using the reasonable potential methodology described in the SIP. Inasmuch as the Regional Board is authorized to use that methodology, the claim lacks merit. Furthermore, even if the SIP were construed as precluding such a use, the Regional Board's action would nevertheless not constitute an amendment to the State Board's SIP. The contention lacks merit on that basis as well.

D. Having Properly Adopted Numeric Limitations, The Regional Board Operated Within Its Discretion By Adopting Immediately-Enforceable Numeric WQBELs In Both the 2004 and 2006 Permits

See Response to Item A.i. on Page 25.

1. **The Regional Board Acted Appropriately and Properly By Refusing to Provide Either Interim Limitations or a Compliance Schedule in the 2004 and 2006 Permits Or, In the Alternative, Adopting the Proposed Cease and Desist Order**

See Response A.iii. on Page 26

2. **The Regional Board Acted Appropriately and Properly Considering all Evidence That Immediate Compliance With Numeric Limitations 2004 and 2006 Permits Is Infeasible**

The Regional Board considered all of the evidence presented during Board Hearing held on May 6, 2004 and July 1, 2004 to consider the tentative order which was adopted as Order No. R4-2004-0111. The evidence presented as these hearings indicated that Boeing was unsure of its ability to comply immediately.

As stated previously, prior to Board consideration of the 2004 Permit, Board staff had included a compliance schedule and interim effluent concentrations in the draft permit. In comments submitted on the draft permit, Boeing asked that the compliance schedule and the interim effluent concentrations be removed from the permit.[48]

A thorough description of the actions taken leading up to the 2006 Permit is presented in Section B.3 above. As is stated in that section, monitoring data collected from August 20, 2004 (effective date of 2004 Permit) to May 5, 2005 yielded forty-four violations of effluent limitations. Boeing submitted a request to revise the Permit to include a time schedule and interim effluent concentrations. Regional Board staff completed a revised RPA, developed a tentative permit which included effluent limitations for constituents that demonstrated RP, and developed a tentative CDO for Board consideration.

The Board Members reviewed the agenda package, listening to all of the testimony, and questioning Board staff, representatives from Boeing and members of the public. Ms. Rubalcava during the question and answer period indicated that she was unsure if the interim effluent concentrations provided in the revised tentative CDO would provide sufficient protection.[49] She apparently believed that discharges from the facility might exceed the maximum effluent concentration that had occurred to date, in the future. Subsequently, the Regional Board

[48] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 1, Folder 7, Item 21.
[49] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 8, Folder 4, Item 1, Page 118, Line14.

decided against providing Boeing with interim effluent limitations and a time schedule.

3. **The Regional Board Acted Appropriately and Properly By Incorporating TMDL Numeric Limitations in the 2006 Permit and Refusing to Provide a Compliance Schedule**

a. **The Los Angeles River Metals TMDL Does Not Expressly Call for a Compliance Schedule When New Limitations are Added to a Permit**

The implementation plan for the Los Angeles River and Tributaries Metals TMDL specifies that Regional Board permit writers shall incorporate WLAs into NPDES permits on the effective date of the TMDL. The SSFL permit regulates waste water and storm water runoff. The implementation schedule indicates that compliance schedules **may** allow up to five years to meet the permit requirements. Permittees that hold individual NPDES permits, and solely discharge storm water, may be allowed (at Regional Board discretion) compliance schedules up to 10 years from the effective date of the TMDL (January 11, 2006).

The TMDL includes a mechanism for a compliance schedule but it does not require that a compliance schedule be included. Staff has reviewed the data set and determined that a compliance schedule may be justified for cadmium at Outfalls 015 – 017. The compliance schedule requires full compliance with the final WLAs one year from the effective date of the TMDL.

A compliance schedule for other metals was not warranted because the data collected indicates that the Discharger will be able to meet the WLAs, which have been translated to effluent limitations.

b. **The Proposed Monthly Average Limitations are Appropriate for Storm Flows**

The TMDLs developed for nitrate as nitrogen, nitrite as nitrogen, and nitrate as nitrogen plus nitrite as nitrogen are thirty-day average WLA. No daily maximum limit was developed. Because the TMDLs are not self-implementing, NPDES permitting staff are required to "translate" the provisions of the TMDL's WLAs into permit effluent limitations. Since the only limit available is a thirty-day average Regional Board staff has routinely translated the thirty-day average into a daily maximum effluent limit.

Monthly average effluent concentrations are routinely provided for discharges composed of wastewater and storm water runoff but are not routinely provided for storm water only discharges. Because of documented onsite contamination above background levels in soil and groundwater, and the types of historic operations, Boeing is not a typical industrial discharger of storm water. Outfall 008 is the sole storm water outfall that discharges to Dayton Canyon Creek, Bell Creek and subsequently to the Los Angeles River.

The TMDL staff report indicates that loads from permittees can contribute as much 14% of the ammonia loading during wet weather. Although the nature of the discharge from the Boeing facility is intermittent, multi-day discharges (which may occur during storm events) of ammonia at concentrations in excess of the daily maximum have potential for causing exceedances of the WQOs. Boeing can take multiple samples during storm events to address its concern that a single sample may be evaluated against a monthly average limit.

c. **The Regional Board Properly Exercised Its Discretion to Include Numeric Discharge Limitations for Nutrients for SSFL**

Nutrients are typically associated with discharges from sewage treatment plants. Since Boeing has two package type sewage treatment plants onsite that may discharge, there is reasonable potential for the nutrients to be present in the discharge.

d. **The Regional Board Did Consider Evidence, When it was Submitted, that the Proposed Numeric Discharge Limitations May Be Exceeded at SSFL by Naturally Occurring Constituents**

Many of the constituent effluent limitations that Boeing has been unable to comply with are constituents that have been linked to historical operations and/or contamination identified in SSFL areas during the RCRA assessment. Boeing does not dispute that it caused this contamination, but appears to be suggesting it should be absolved from preventing the constituents from reaching the surface waters because, Boeing contends, these constituents are also allegedly naturally occurring. Boeing bases this position on Dr. Paulsen's testimony and the Flow Science report it submitted to the Regional Board on February 23rd.

In the first instance, that report is not part of the administrative record that was before the Regional Board for either the 2004 permit or the January 19, 2006 modification of the 2004 permit,

and thus it should not be considered by the State Board in reviewing the appropriateness of the Regional Board's decisions during those proceedings.

Secondly, a detailed response to the Flow Science report is included in Attachment A, hereto. We would note that the report contains inadequate information to demonstrate that the "open space natural areas" studied as comparison sites are actually analogous to the SSFL site. We would also note that Boeing is responsible for its discharges irrespective of how the constituents became part of the discharge. Finally, even if Boeing could properly contend it should not be responsible for some of the constituents in its discharge because some of them emanate from natural sources, Boeing has failed to submit an analysis of the data contained in the report to determine what proportion of the discharge concentration should be attributed to contamination Boeing caused as opposed to naturally occurring sources.

4. The Regional Board Acted Appropriately and Properly By Limiting Boeing's Presentation at the January 19, 2006 Hearing

The Discharger is routinely alloted twenty minutes to make a presentation during the Board Hearing. Representatives from Boeing requested additional time and were given forty-five minutes; more than doubling the amount of time routinely alloted.

After presentations by Board staff, Boeing representatives, and interested parties, the Regional Board members questioned staff, members of the public and Boeing representatives to clarify issues.

CONCLUSION

For the forgoing reasons, the Regional Board hereby requests that Boeing's petition be denied, as it fails to demonstrate that the Regional Board's actions were inappropriate or improper.

ATTACHMENT A
Response to Testimony by Susan Paulsen and the Flow Science Report provided by Boeing at the April 3, 2006 Stay Hearing

Much of the information presented during the stay hearing by Sharon Rubalcava and Susan Paulson was based on information attached to a letter from Ms. Rubalcava to Jonathan S. Bishop, Los Angeles Regional Water Quality Control Board dated February 23, 2006 - Tentative Update to Order R4-2006-0008 Adopted by the Regional Board on January 19, 2006 – Boeing Company, Santa Susana Field Laboratory, Canoga Park (NPDES NO. CA0001309, CI No. 6027)[1]. The following provides a response to several of the assertions put forth during the hearing and a summary of responses that the Regional Board has provided to Boeing and all other interested parties included in the Administrative Record.

The 1st Paragraph on Page 2 of the submittal states, "Additional numeric limits have been proposed for the various outfalls, but no compliance schedules have been provided in the tentative permit. Accordingly, the new limits, if adopted, will be enforceable on the date the permit is effective. This is in direct conflict with the Total Maximum Daily Loads (TMDLs) upon which the limits are supposedly based...."

Both implementation plans for the Metals and Nutrients TMDLs for the Los Angeles River require that the criteria be included in permits adopted or renewed after the effective date of the TMDLs. Both TMDLs include a provision for the inclusion of compliance schedules. However, neither of the TMDLs mandate the implementation of compliance schedules for industrial dischargers. The Los Angles River Nutrient TMDL provides an implementation schedule for the Publicly Owned Treatment Works (POTWs) discharging to the Los Angeles River. The compliance schedule provides the time required to implement new treatment technologies to meet the required limits. Industrial dischargers (major and minor permittees) may not be required to incorporate new treatment technologies to meet the effluent limits derived from the specified waste load allocations (WLAs) and load allocations (LAs). Therefore, the inclusion of compliance schedules was not mandated in the TMDLs.[2]

However, the metals TMDL does include a provision that the discharger may be granted a compliance schedule. Permit writers translate applicable WLAs into effluent limits for the major, minor, and general NPDES permits by applying the effluent limitations procedures in Section 1.4 of the State Implementation Policy (SIP) or other applicable engineering practices authorized under federal regulations. The implementation provision of the SIP indicates that a discharger who cannot comply immediately with final effluent limitations may be grated up to five years to achieve compliance. However, to routinely receive a compliance schedule, the discharger must demonstrate that the discharge cannot immediately meet the final effluent limitations. The data available from Boeing indicates that the discharge can meet the effluent limits that are derived from the WLA. The only constituent with a TMDL-based effluent concentration that was detected at concentrations exceeding the final limitation is cadmium. Therefore, an interim effluent concentration for cadmium was developed and incorporated into the permit. The other metals with TMDL based effluent limitations (copper, lead, zinc, and selenium) have not been detected at

[1] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 8, Folder 6, Item 17.
[2] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 8, Folder 7, Item 6, Response to Comments Table, Response 2, Page 2 of 14.

concentrations above the effluent limitations. Therefore, a compliance schedule for these constituents was not warranted.[3]

The effective date of the permit was determined utilizing the Administrative Procedures Manual[4] protocol which stipulates that the effective date of the permit be fifty days after the date of adoption of the Final Permit if the draft permit has received significant comments. On the date when the permit becomes effective, all of the provisions included therein also become effective.

The protocol utilized to implement the TMDLs is in agreement with the procedures included in the adopted TMDLs. The implementation plans provide the option of utilizing compliance schedules. However, in most cases the Regional Board did not agree that a compliance schedule was required.

The letter asserts that "the report by Flow Sciences concludes that a substantial portion of metals and dioxin concentrations and loads in storm water from SSFL may be derived from naturally occurring conditions and may be unrelated to site activities." This begs the question of what are the natural background concentrations at SSFL. This is difficult to ascertain since activities have been ongoing at much of the developed portion of the facility since 1950 and many of those activities have resulted in soil, sediment, and groundwater contamination.

Current discharges from the site are composed primarily of storm water runoff. However, the Discharger requested that the permit include provisions for discharges from all operations at the site. Hence, the permit included provisions to protect the receiving water assuming that the full design capacity (as reported by the Discharger) is discharged from each of the operations that have the potential to generate wastewater. Those operations include: (1) three package-type sewage treatment plants; (2) rocket engine testing operations; and (3) discharge of treated groundwater to surface water drainages. Storm water runoff traversing the site may pick up contaminants from the soil, from the ponds and from the drainage sediments. These contaminants may be deposited downstream of their original locations or offsite in or adjacent to the streambeds. For this reason, the permit also includes effluent limits for contaminants in storm water discharged from the site.

Responses to the specific comments included in the letter were included in the Response to Comments letter issued on March 7, 2006.[5]

The testimony presented at the stay hearing held on April 3, 2006 included conclusions from the Flow Science Report that was attached to the submittal. The following is a summary of the issues raised in the attached report from Flow Science entitled "Potential Background Constituent Levels in Storm Water at Boeing's Santa Susana Field Laboratory" (Report).

Potential Background Constituent Levels in Storm Water at Boeing's Santa Susana Field Laboratory

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[3] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 8, Folder 7, Item 6, Response to Comments Table, Response 3, Page 3 of 14.

[4] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 1, Folder 1, Item 1, Pages 19-20.

[5] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 8, Folder 7, Item 6.

Atmospheric deposition. The metals TMDL acknowledges that a portion of the metals present in the storm water runoff from both point and nonpoint sources is the result of atmospheric deposition. Specifically, the findings of the TMDL note that direct atmospheric deposition of metals into the River is a small percentage of all sources. Indirect atmospheric deposition of pollutants on the land surface that is washed off during storms is a larger source, which is accounted for in the estimates of storm water loadings.

The study referred to in the Report involves a draft model for wet weather in Ballona Creek. It is presumptuous to assume that a draft model for Ballona Creek is appropriate to determine the loading that is occurring in the Los Angeles River watershed, which has different characteristics and land uses. It must also be noted that the model calculations used are "estimates". As with any theoretical model, the predicted conclusions must be verified by collecting data. The report offers no such data in support of the predicted conclusions.

Studies by Sabin et al (2004 and 2005) referenced in the Report are described as demonstrating that dry deposition metals loads to the Los Angeles Region far exceeded mass loadings of metals in storm flows (storm flow mass loadings of metals were 9-43% of the annual atmospheric deposition load to the Los Angeles Region between October 2003 and April 2004). The Report also states that the total deposition fluxes measured in urban Los Angeles in the Sabin et al. Study were significantly higher than the fluxes measured at non-urban sites. SSFL is not located in an urban area, yet the data from SSFL shows higher concentrations of metals than would be expected from open-space. This is most likely due to the release of metals from past operations at the site.

The discussion in the Report also quotes information presented in the Study, which indicates that atmospheric deposition in one small, urbanized catchment accounted for as much as 57 –100% of the annual trace metals load in storm water. The Study includes several quantifiers. The estimate assumes that the total quantity deposited is available for mobilization in storm water runoff. This may not be true. Some fraction of the deposited material may be removed from surfaces by means other than storm water runoff due to other processes that have not been quantified. Some of those processes include resuspension, uptake by vegetation, accretion, adsorption and other means. Material remaining on the surface may not be completely washed off during storm events. The amount of material mobilized depends on a number of factors, such as surface type, street cleaning practices, rainfall intensity, rainfall duration, and rainfall pH.

As previously noted, the assumptions put forth in the Studies by Sabin et al were based on estimates made in an urbanized area. The discussion regarding deposition fluxes included in the Report indicates the importance of anthropogenic sources in urban areas and their contribution to higher deposition rates. Burning of waste was an accepted method of disposal for a number of years at SSFL. These historical operations have contributed to the presence of contaminants onsite which may be available for resuspension. The presence of elevated concentrations of these contaminants prior to the Topanga Fire is not the result of naturally-occurring background concentrations, but in fact, are the direct result of onsite, operational contamination.

TMDLs for several metals have been developed for the Los Angeles River since data collected indicates that the waterbody contains elevated concentrations of these

constituents. The TMDL was developed to decrease the metals concentration to at or below the applicable water quality standards for the water body.

The TMDL implementation plan includes a requirement that the Regional Board reconsider it in five years after the effective date. Additional data and special studies completed will be considered at that time and if required, the established WLAs and LAs will be updated to continue efforts to ensure full attainment of the water quality standards for the receiving water. Data from the SSFL discharges will also be used for updates of the TMDL.

Wild fires. Sabin et al. (2005) reported that the atmospheric deposition rates for copper, lead, and zinc, increased by factors of four, eight, and six, respectively, at Tillman Water Reclamation plant in the San Fernando Valley which was approximately 30 miles from the southeastern border of the Piru/Simi Fires. A parallel comparison cannot be made for the SSFL since atmospheric deposition of contaminants was not reported either prior to, or after, the Topanga Fire. Other contributing factors that may vary between the two sites include prevailing wind direction on the day of the fire during and after the event, rainfall, and topography.

The concentrations of copper, lead and zinc in surface water discharges in some outfalls sampled increased after the fire, but in other instances, no significant difference has been noted. Outfall 002 which transports wastewater and storm water, was sampled prior to the fire on August 20, 2004. The detected concentration of copper was 7.1 µg/L. After the fire, on January 1, 2006 the concentration was 12 µg/L. Outfall 003, which transports storm water runoff, was sampled prior to the fire. The detected concentration of copper on October 18, 2005 was 17 □g/L. On January 1, 2006 (after the fire) the outfall was sampled and the concentration was 7 □g/L. Similar results were observed for lead and zinc. There is no clear pattern evident in the data and it does not appear to correlate well with the results reported in the Sabin et al. Studies. Therefore, it is not apparent that the brush fires have resulted in sufficient metals deposition to significantly effect the contaminant concentrations that have been detected in the surface water runoff at SSFL.

Staff agrees that brush fires produce dioxin emissions. However, routine historical operations at the SSFL, including the open pit burning of waste, also generated dioxins. Dioxin contamination was present onsite prior to the Topanga Fire. Resource Conservation and Recovery Act (RCRA) assessment and cleanup efforts, which are proceeding with Department of Toxic Substances Control (DTSC) oversight, have detected TCDD in soil and sediment. In a presentation given on December 16, 2004[6] at the Santa Susana Field Laboratory Workgroup Meeting, representatives from DTSC outlined:

1. The concentrations and locations of the dioxins at SSFL;
2. Efforts to minimize the spreading offsite; and
3. Efforts to ensure adequate monitoring and action if necessary.

DTSC's presentation states "At SSFL dioxins resulted from burning off-spec fuels and incineration of debris." Elevated dioxin concentrations were found at twenty-two solid waste management units (SWMUs). Concentrations of up to 1,880 ppt in soil were detected at the Thermal Treatment Facility onsite (vicinity of Outfall 011). California background for dioxins was reported at <1 to 9 ppt. The EPA Region 9 Preliminary

[6] Admin Record SWRCB/OCC Files A-1653 and A-1737. Box 6, Folder 7, Item 3.

Remediation Goal (PRG) for dioxin in soils is 3.8 ppt. This information clearly shows that dioxin contamination was present in the surface soils and sediment at SSFL prior to the Topanga Fire. The contaminant concentrations of dioxins in soil documented by DTSC clearly exceed the background and EPA Region IX cleanup goals by three orders of magnitude. Monitoring of the surface water discharges yielded a result of 7.08×10^{-5} □g/L for TCDD TEQs on October 17, 2004, prior to the Topanga Fire, at Outfall 4. Therefore, to suggest that the concentrations present in the wastewater exiting the site are due primarily to atmospheric deposition after the Topanga Fire is disingenuous when one considers the contaminant concentrations present in soil, sediment, and in some surface water discharges prior to the fire.

The effluent limit for TCDD and dioxin-like compounds was developed to protect the beneficial uses of the waters of the United States. The CTR reads "EPA intends to continue to regulate dioxin to avoid further harm to public health, and the basis for the dioxin criteria, both in terms of the cancer potency and the exposure estimates, remains scientifically defensible." The CTR-based effluent limit is the applicable criteria for TCDD concentrations in wastewater and for contaminated stormwater runoff.

Forest Fire Impacts on Native Soils and Storm Water Loads

The section of the Report describes the brush fire impacts on native soils and storm water loads in the Santa Ana River Watershed. The topography and hydrologic conditions of the Santa Ana River and the Los Angeles River watersheds are different. The assumption is made that, since the conclusion of this Report is that storm flows could increase metal loadings by as much as 5 times and sediment loadings could increase by 30 – 50 times above average levels due to impacts from the Padua, Grand Prix, and Old Fires, those attributes will be applicable to the Los Angeles River Watershed. Since the two watersheds are different and since the mitigation measures used to control the flow of sediments in the two watersheds were not compared and contrasted, it is impossible to determine if the two watersheds will exhibit similar characteristics after being exposed to a wildfire.

Information in the Report was provided for the Los Alamos National Laboratory (LANL), which was in the vicinity of the 2000 Cerro Grande Fire in New Mexico. This is one of two laboratories in the United States where classified work towards the design of nuclear weapons is undertaken. Since the facility is in New Mexico, the surrounding area will experience different wind patterns, vegetation, topography, and climate, than those conditions near SSFL. However, since the operations at the two facilities are similar one would expect that the chemicals of concern would be similar.

Contribution of Native Sediments and Ash to Surface Water Runoff Constituent Concentrations at the SSFL

The Flow Science Report refers to the soils as native soils. The soils in the developed portion of SSFL in many cases cannot be referred to as native soils as the contaminant concentrations in the soils are anthropogenic in nature. Past operations, including burning of waste in open pits, dismantling equipment, and rocket engine test operations, have resulted in elevated concentrations of contaminants throughout much of the developed portion of the site resulting in a need for RCRA Corrective Action. Since these soils in many areas have contamination associated with past site operations, they can no longer be accurately characterized as native soils.

It is ultimately the Discharger's responsibility to control the transport of contaminants into receiving waters. One such contaminant is total suspended solids (TSS). Historical data demonstrates the Discharger's inability to effectively control the transport of TSS utilizing selected Best Management Practices (BMPs), as is evidenced by violations of the effluent limitations.

Past compliance information does not necessarily support the assertion that high TSS loads accompany elevated concentrations of metals and dioxins. The Report asserts that the elevated concentrations of a number of constituents are associated with background concentrations of contaminants in soil. The beneficial uses of the receiving water provide the criteria for the development of water quality based effluent limitations (WQBELs). The developed WQBELs are not site specific and do not consider the background concentrations of the constituents in the soil and their potential to be leached from the soil. In order for site specific criteria to be developed, Boeing must submit a plan to complete a site specific Water Effects Ratio (WER) or Site Specific Objective (SSO) Study. After the study has been approved by the Regional Board and the stipulated data collected and analyzed by the Discharger, the results will be evaluated and if appropriate, site-specific criteria will be applied to discharges from the facility.

Table 14 and 15 of the Report provides estimated storm water constituent concentrations from erosion of soils at the SSFL. These are theoretical calculations and no data has been collected to verify the estimates. It must also be noted that much of the information provided on the TSS loading indicates that it changes significantly depending on the type of storm (size, duration). The Discharger has the ability to control, to some degree, the amount of TSS loading by selecting and implementing BMPs that effectively control the transport of TSS.

The Flow Science Report asserts that dioxin concentrations in site soils and ash are comparable to those measured in off-site soils and ash, indicating that this phenomenon is not unique to the SSFL site. What is unique, is that SSFL had dioxin contamination prior to the fire. The dioxin contamination prior to the fire was, and continues to be, associated with historical operations at the site including the burning of off-spec fuels and incineration of debris. Prior to the Topanga Fire discharges from SSFL violated the effluent limitation included in the National Pollution Discharge Elimination System (NPDES) permit for TCDD. The monitoring protocol stipulated in the CTR and in the SIP requires that seventeen congeners of TCDD be analyzed and a total concentration of TCDD equivalents (TEQs) calculated. The WQBEL for the TCDD TEQs is 2.8E-08. Utilizing this method, on October 17, 2004 samples from Outfall 006 contained TCDD at 1.92E-04 □g/L. This concentration was detected almost one year prior to the Topanga Fire. None of the TCDD contaminated sites identified during the ongoing RCRA assessment have been cleaned up and formally closed.

The Report compares the copper, lead, and zinc concentrations in post Topanga Fire discharges from SSFL with the receiving water data at the Wardlow Monitoring Station. The Wardlow Monitoring station is located between Willow Street and Wardlow Road in the City of Long Beach. The upstream tributary area of the Los Angeles River watershed is 824 square miles, most of which drains eventually through the Wardlow Monitoring station. That watershed area includes industrial, residential, and commercial areas including major refineries and petroleum products storage facilities, major freeways, rail lines, and rail yards. It also includes discharges from SSFL. The cumulative impacts of discharges from

all of these types of facilities are expected to exceed the impacts associated with discharges from any one of the contributing facilities.

More specifically, when the data collected during each storm event is considered, the data collected indicates that the concentrations of the contaminants in the storm water were the highest during the first storm event. Subsequent storm events monitored for copper, lead and zinc yielded concentrations that were at least an order of magnitude less than the detected concentration in the first storm. Data was not reported regarding the use of BMPs to control the transport of contaminants in the upstream portion of the watershed area that is drained through the Wardlow Monitoring Station from the Los Angeles River Watershed.

Again, reference is made to Los Alamos National Laboratory (LANL) and the effects of Cerro Grande Fire on that facility. The LANL was founded in 1943 to research, develop and produce the world's first nuclear weapons as part of the Manhattan Project. It was the central facility that coordinated university and federal laboratories nationwide to produce radioactive materials and components for the weapons that were manufactured during World War II. Investigations and operations at LANL have resulted in known contamination and concern that unsatisfactory cleanup may be compromising the quality of surface, and ground water, air and soil. Contaminants present at the site include radioactive and hazardous waste. The Report summarized that a number of constituents had elevated concentrations due to the effects of the Cerro Grande Fire, which burned 7,200 acres of the facility. Some of the constituents with elevated concentrations included strontium, americium-241, cesium-137, and strontium-90. These are not contaminants that are routinely associated with fires. However, they are contaminants associated with radioactive waste. No pre-fire measurements were available for dioxin-like compounds in the Rio Grande River, which receives runoff from the LANL. However, post fire measurements of dioxin-like compounds in the Rio Grande River exceed the CTR-based criteria.

The Report (Section 3.4.2) provides a comparison between the dioxin concentrations noted in the Boeing SSFL discharge, a data set from Fischer et al., ten dischargers reporting dioxin data to the Regional Board, and offsite storm water data. The initial observation from Figure 8 of the Report shows that the average of the TCDD TEQ for Outfalls 003–010 pre fire is higher than the concentration reported post fire. This indicates that the effects of the fire on the TCDD discharged may be insignificant compared to contamination from onsite operations.

Comparisons between discharges from the SSFL site and other sites included in the figure are not sufficiently supported since no information is provided regarding the land use type, industrial operations, historical operations, chemicals of concern associated with facility operations, and site contamination. All of these factors are important when comparing the contaminant concentrations at the sites.

Conclusion

In conclusion, while the Report provides interesting information and data, the comparisons drawn between SSFL and other "surrogate" sites are not necessarily valid. This is due to the variables between sites including wind patterns, geography, vegetation, rainfall, etc.

In addition, while aerial deposition of metals and dioxins from normal conditions and brush fires may have contributed to some contamination detected at the SSFL, they do not account for all of the contaminated runoff from the site. Rather, the contamination can be

readily attributed to soil and sediment contamination at the twenty-two (22) RCRA Corrective Action sites caused by onsite operations over the last fifty years.